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University of the State of New York

BULLETIN

OF THE

New York State Museum

VOL. 5. No. 24

October 1899

SUPPLEMENT

TO THE

14TH REPORT OF THE STATE ENTOMOLOGIST, 1898

MEMORIAL

OF

LIFE AND ENTOMOLOGIC WORK

OF

Joseph Albert Lintner, Ph.D.

State entomologist, 1874-98

BY

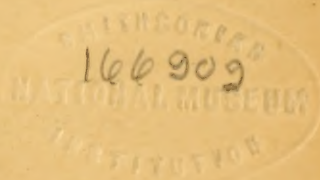
EPHRIAM PORTER FELT, D. Sc.

State entomologist

ALBANY

UNIVERSITY OF THE STATE OF NEW YORK

1899



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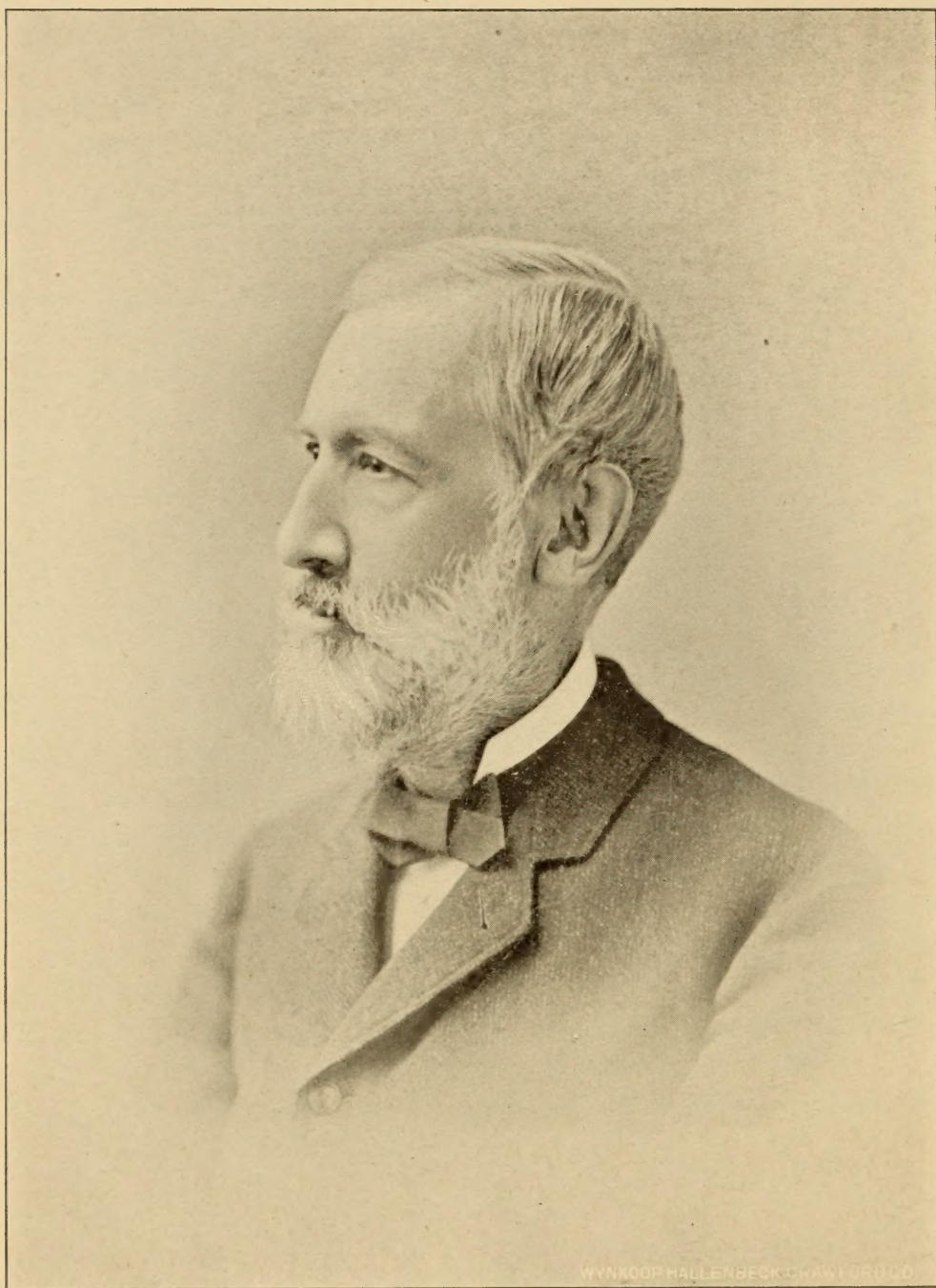
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FREDERICK J. H. MERRILL, *Director*

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CONTENTS

	PAGE
Joseph Albert Lintner, notice of his life - - - - -	303
Memberships in learned societies held by J. A. Lintner - -	305
List of new species described by J. A. Lintner - - - -	306
Lepidoptera - - - - -	306
Diptera - - - - -	308
Thysanura - - - - -	308
Myriapoda - - - - -	308
Bibliography of the entomologic publications of J. A. Lintner -	308
Index to reports 1-13, including supplement to the 14th report, -	401

JOSEPH ALBERT LINTNER

In the sudden death of this prominent entomologist at Rome, Italy, on May 5, 1898, the scientific world sustained a great loss. Joseph Albert Lintner, Ph. D., was born in Schoharie, N. Y., Feb. 8, 1822, of German parentage. He attended Jefferson academy and was graduated from the Schoharie academy in 1837. For 10 years he was in business in New York city, and at the same time continued his studies under the Mercantile library association, also contributing scientific articles to the *New York tribune*. Returning to Schoharie in 1848, he engaged anew in business till 1860, when he removed to Utica and there manufactured woolen goods for some years. His scientific studies were continued unremittingly. His large collection of insects was begun in 1853 and in 1862 his first article on entomology was published. In 1868 he became zoological assistant in the state museum, and was put in charge of the entomologic work in 1874. He was appointed state entomologist by Governor Cornell in 1880, a position held till his death, and in 1883 was made by the regents a member of the scientific staff of the state museum.

This long and faithful service in his chosen field made him a valued and respected leader among economic entomologists. The last 36 years of his life were devoted almost entirely to entomology, and he wrote during that time over 900 independent articles, besides his 13 reports and the four numbers of *Entomological contributions*. In 1871 he began to contribute articles on economic entomology to the *Cultivator and country gentleman*, a leading agricultural paper now known as the *Country gentleman*, and was its entomological editor during the last 25 years. He has also written many notices for a number of other agricultural and horticultural papers. Although his publications were numerous and varied, it was their writer's ambition to make his communications of practical value to all. It was his delight to include something new or of more than ordinary interest in every notice of an insect. For the past 18 years he was widely known as a most earnest and conscientious state entomologist. His reports, replete with valuable and practical information, are enduring monuments to their author. In simplicity of language, dignity of expression, conciseness and thoroughness of treatment, they are models.

The high appreciation won from his colaborers is strikingly shown in the following extract^a from an address delivered in 1894 before the Association of economic entomologists by the president, Dr L. O. Howard,

^a *Insect life*. 1894. 7:63

now chief of the division of entomology, of the United States department of agriculture:

The movement which resulted in the passage of this law^a was started by the regents of the University of the State of New York at their annual meeting in 1877, and the person appointed to fill the office was Dr J. A. Lintner, a well-known worker in entomology, who, up to that time, had been connected with the state museum of natural history. Dr Lintner has held office continuously since 1881. He brought to bear upon his duties a ripe experience and a mind trained in scientific methods. He has published nine reports, the last one covering the year 1892, and only recently distributed. These reports are in many respects models. The great care and thoroughness of the author have hardly been equalled by any other writer upon economic entomology. The form of the reports is most admirable, and the account of each insect forms almost invariably a complete compendium of our knowledge concerning it down to the date of publication. His accounts are also arranged in the most convenient form for reference, a full bibliography precedes the consideration of each species, and the frequent subheadings enable the most practical use of the report. The reports are replete with sound and ingenious practical suggestions, and are written in a straightforward, simple style, which possesses great literary merit. They abound in illustrations, and are made available by most complete indices and tables of contents. Aside from these reports, Dr Lintner has published a great deal in the newspapers, particularly the *Country gentleman*, on the subject of economic entomology, and another valuable feature of his reports is the comprehensive list which he publishes each year of his unofficial writings.

Without the magnificent opportunities our universities are offering today, this life shows in the highest degree the results of patient effort supplemented by untiring perseverance. Although prohibited by circumstances from devoting his whole time to scientific pursuits till late in life, his great love for nature enabled him to attain one of the highest positions in his chosen work. In 1884 the honorary degree of doctor of philosophy was conferred on him by the regents of the University of the State of New York. He was president of the Entomological club of the American association for the advancement of science and the Association of economic entomologists, two years each, and was president of the department of natural science of the Albany institute from 1879 till his death. He was elected to membership not only in learned societies in this country, but many of those abroad were proud to enroll his name on their books, as may be seen by the appended list of memberships held at the time of his decease. A short time before his death he was granted a six months' leave of absence by the regents in recognition of his long and faithful services.

^a Laws of 1881, ch. 377. The original appointment was made by Governor Cornell in 1880, under authority of ch. 549 of the laws of that year.

Modest and unassuming, gentle, yet never yielding to imposition, kind and loved by all, the name of Joseph Albert Lintner shines with a luster that places it beside those of Harris, Fitch, Walsh, LeBaron and Riley.

MEMBERSHIPS IN LEARNED SOCIETIES HELD BY J. A. LINTNER

American entomological society, Philadelphia, Pa.

Corresponding member: elected, Nov. 10, 1862.

Albany institute, Albany, N. Y.

Resident member: elected, Nov. 2, 1869.

West Virginia historical society, Morgantown, W. Va.

Corresponding member: elected, Dec. 30, 1869.

Entomological society of Ontario, Canada. London, Ont.

Member since 1872.^a

Lyceum of natural history of the city of New York: Now, New York academy of sciences, New York, N. Y.

Corresponding member: elected, Feb. 27, 1872.

Buffalo society of natural sciences, Buffalo, N. Y.

Corresponding member: elected, Mar. 2, 1872.

Cambridge entomological club, Cambridge, Mass.

Honorary member: elected, Aug. 10, 1875.

Dana natural history society: Albany, N. Y.

Honorary member.

Academy of natural sciences, Davenport, Iowa.

Corresponding member: elected, Ap. 27, 1877.

American association for the advancement of science, Salem, Mass.

Member: elected, Aug. 21, 1873; Fellow: elected, 1874.

Société entomologique de Belgique, Brussels, Belgium.

Member effectif: elected, Aug. 4, 1877.

Oneida historical society, Utica, N. Y.

Corresponding member: elected, July 1, 1879.

Meadville society of natural history, Meadville, Pa.

Corresponding member: elected, July 2, 1880.

New York entomological club, New York, N. Y.

Corresponding member: elected, Nov. 15, 1880.

^a The society has no record accessible which indicates the date of election or the character of the membership, though since 1888 he had been regarded as an honorary member.

Musée royal d'histoire naturelle de Belge, Brussels, Belgium.

Corresponding member: elected, July 30, 1877.

Société imperiale des naturalistes de Moscou, Moscow, Russia.

Honorary member: elected, Nov. 20, 1886.

Linnaean scientific association of New Jersey state normal school.

Honorary member: elected, March 1887.

Société entomologique de France, Paris, France.

Member effectif: elected, Nov. 9, 1887.

Kansas state horticultural society, Lawrence, Kans.

Honorary member: elected, Dec. 14, 1887.

New York state agricultural society, Albany, N. Y.

Consulting entomologist: elected, January 1889.

Trinity historical society, Dallas, Texas.

Honorary member: elected, Jan. 14, 1891.

Association of economic entomologists.

Active member since its organization in 1889.

LIST OF NEW SPECIES DESCRIBED BY J. A. LINTNER

This list is arranged systematically and cites also the place and date of the original description.

Lepidoptera

- Apatura* [*? Chlorippe*^a] *cocles*.....Papilio. 1884. ^b4: 141-42.
- Lycaena lotis*.....Entomological contributions. ^c 1878.
4: 57-58.
- Kricogonia lanice*.....Papilio. 1884. 4: 138-39.
- Pamphila osceola*.....Entomological contributions. 1878.
4: 58-59.
- Nisoniades* [*Thanaos*] *icelus*.....Entomological contributions. 1872.
1: 30-32.
- Nisoniades* [*? Thanaos*] *somnus*....Papilio. 1881. 1: 73-74.
- Nisoniades* [*Thanaos*] *lucilius*.....Entomological contributions. 1872.
1: 32-34.
- Nisoniades* [*Thanaos*] *ausonius*....Entomological contributions. 1872.
1: 34-36.

^a The preferred generic name has been inserted in brackets.

^b Volume and page references are separated by a colon, e. g., 1: 286-93 means volume 1, pages 286 to 293.

^c Entomological contributions, 1, 2, 3 and 4 were published respectively in the 23d, 24th, 25th and 30th *Annual reports* of the New York state museum of natural history.

- Nisoniades* [*? Thanaos*] *afranius* ..Entomological contributions. 1878.
4: 63-64.
- Nisoniades* [*? Thanaos*] *petronius* ..Papilio. 1881. 1: 70-71.
- Nisoniades* [*? Thanaos*] *naevius* ..Papilio. 1881. 1: 69-70.
- Nisoniades* [*? Thanaos*] *pacuvius* ..Entomological contributions. 1878.
4: 60-61.
- Eudamus* [*Thorybes*] *electra*Canadian entomologist. 1881.
13: 63-65.
- Sphinx insolita*Papilio. 1884. 4: 145-46.
- Ellema pineum*Entomological contributions. 1872.
1: 37-39.
- Cerura occidentalis*Entomological contributions. 1878.
4: 82-83.
- Anisota* [*Sphingicampa*] *bisecta*Canadian entomologist. 1879.
11: 10-12.
- Cossus centerensis*Canadian entomologist. 1877.
9: 129-30.
- Cossus undosus*Entomological contributions. 1878.
4: 131-33.
- Xylina unimoda*Entomological contributions. 1878.
4: 96-97.
- Xylina lepida*Entomological contributions. 1878.
4: 95-96.
- Calocampa nupera*Bulletin Buffalo society natural sci-
ences. 1874. 2: 188-89.
- Cucullia laetifica*Check list of the noctuidae of America,
north of Mexico. 1875. p. 24-25.
- Cucullia speyeri*Entomological contributions. 1874.
3: 168-74.
- Cucullia serraticornis*Entomological contributions. 1874.
3: 174-76.
- Plusia culta*Insects of New York. 2d Report.
1885. p. 97.
- Hypocala hilli*Entomological contributions. 1878.
4: 105-7.
- Catocala pretiosa* [var. of *C. crataegi* Saund.]
Canadian entomologist. 1876. 8: 121-22.
- Acidalia* [*Eois*] *lacteola*Entomological contributions. 1878.
4: 112.

Diptera

- Phora agarici*.....Insects of New York. 10th Report.
1895. p. 401, 402.
- Chortophila* [*Pegomyia*] *betarum*....Insects of New York. 1st Report.
1882. p. 208-9.
- Pegomyia vicina*.....Insects of New York. 1st Report.
1882. p. 209-11.
- Sciara caldaria*Insects of New York. 10th Report.
1895. p. 398.
- Sciara coprophila*Insects of New York. 10th Report.
1895. p. 394-96.
- Diplosis cucumeris*.....Insects of New York. 11th Report.
1896. p. 166-67.
- Diplosis setigera*Insects of New York. 11th Report.
1896. p. 168-69.
- Cecidomyia balsamicola*.Insects of New York. 4th Report.
1888. p. 60-63.
- Cecidomyia trifolii* [*leguminicola*]...Canadian entomologist. 1879.
11: 44-45.

Thysanura

- Achorutes diversiceps*.....Insects of New York. 11th Report.
1896. p. 253-54.

Myriapoda

- Leptodesmus falcatus*.....Insects of New York. 12th Report.
1897. p. 300-1.

BIBLIOGRAPHY OF THE ENTOMOLOGIC PUBLICATIONS

OF

Joseph Albert Lintner, Ph. D.

The highly commendable practice of the late Dr J. A. Lintner in giving lists of his papers together with place, date of publication and summary of contents, has reduced to a minimum the labor of preparing this bibliography of his writings. In bringing these titles together, it has been my aim to render the greatest value with the least repetition. The extended summaries included in the original lists have been abridged, only the names of the more important species being retained.

The synonymy indicated is based largely on that adopted by Dr Lintner in his index of reports 1-10, which was published in 1896.

Metamorphoses of *Ceratonia quadricornis* Harris [*amyntor* Hübn.] (Entomological society of Philadelphia. Proceedings. 1862. 1: 286-93) Also, separate, with cover and half title page, December 1862.

Extended account of its life history, describing the egg, larval stages, pupa, pupal cell and its construction.

Notes on some of the diurnal lepidoptera of the state of New York, with descriptions of their larvae and chrysalides. (Entomological society of Philadelphia. Proceedings. 1864. 3: 50-64) Also, separate, with cover and title page, May 1864.

The following species are noticed: *Papilio turnus* Linn.^a [*Jasoniades glaucus* Linn.], *Papilio asterias* Fabr. [*polyxenes* Fabr.], *Papilio* [*Euphroeades*] *troilus* Linn., *Pieris oleracea* Harris, *Colias* [*Eurymus*] *philodice* Godt., *Grapta* [*Polygonia*] *comma* Harris, *Grapta* [*Polygonia*] *faunus* Edw., *Grapta* [*Polygonia*] *progne* Fabr., *Grapta* [*Eugonia*] *j-album* Godt., *Vanessa* [*Eu Vanessa*] *antiopa* Linn., *Vanessa* [*Aglais*] *milberti* Godt., *Limenitis* [*Basilarchia*] *arthemis* Drury, *Limenitis disippus* Godt. [*Basilarchia archippus* Cram.], *Pyrameis* [*Vanessa*] *huntera* Sm.-Abb. Also notes of comparative abundance and capture of some of the diurnals.

Description of the larva of *Dryocampa* [*Anisota*] *rubicunda* Fabr. (Entomological society of Philadelphia. Proceedings. 1864. 3: 426-27)

Mature larva taken from sugar maple is described.

Notes on some Sphingidae of the state of New York, with descriptions of their larvae and pupae. (Entomological society of Philadelphia. Proceedings. 1864. 3: 645-72) Also, separate, with cover and title page. December 1864.

The immature stages of the following species are noticed: *Sesia* [*Hemaris*] *thysbe* Fabr., *Sphinx quinquemaculata* Steph. [*Phlegethontius celeus* Hübn.], *Sphinx* [*Phlegethontius*] *cingulata* Fabr., *Sphinx* ——— ? [*eremitus* Hübn.], *Sphinx cinerea* Harr. [*chersis* Hübn.], *Sphinx kalmia* Sm.-Abb., *Sphinx drupiferarum* Sm.-Abb., *Philampelus satellitia* Harr. [*pandorus* Hübn.], *Philampelus achemon* Drury, *Deilephila chamaenerii* Harr. *Deilephila lineata* Fabr., *Darapsa* [*Ampelophaga*] *myron* Cram., *Ceratonia quadricornis* Harr. [*amyntor* Hübn.], *Smerinthus* [*Paonias*] *excaecatus* Sm.-Abb., *Smerinthus* ——— ? [*Paonias excaecatus* Sm.-Abb.], *Smerinthus* [*Cressonia*] *juglandis* Sm.-Abb., *Ellema harrisii*

^a In the bibliography the names used in the text are given and the preferred terms inserted in brackets.

Clem., Sphinx larvae on poplar [*Pheosia dimidiata* H.-S.]; list of undescribed larvae of N. Y. state Sphingidae.

A hundred fold return for a trifling expenditure. (Utica morning herald. May 11, 1866)

Brief article on the value of entomologic study, and recommending the *Practical entomologist* to the public.

Description of a new species of *Grapta*, and Notes on *G. interrogationis*. (American entomological society. Transactions. 1869 2: 313-19)
Also, separate, May 1869.

Description of *Grapta umbrosa* [*Polygonia interrogationis* var.]

First observation of *Pieris rapae* in New York. (Sunday morning press [Albany]. Aug. 7, 1870, p. 4)

Notice of the capture of this cabbage butterfly in Albany.

'The poisonous cabbage worm.' (Argus [Albany] Oct. 20, 1870)

Refuting the statement that the larva of the cabbage butterfly, *Pieris rapae*, is poisonous.

The recently imported cabbage butterfly—*Pieris rapae*. [Read before the Albany institute, Nov. 2, 1870] (Argus [Albany] Nov. 2, 1870. Albany institute. Proceedings. 1873. 1: 199-201)

General account of its introduction, life history and probable spread in this country.

On *Graptæ interrogationis* and *fabricii* Edw. [*interrogationis* var.]. (American entomological society. Transactions. December 1870. 3: 197-204) Separate with cover and title page.

Discussion of *Grapta* [*Polygonia*] *interrogationis* Fabr, and its varieties.

Spectrum [*Diapheromera*] *femoratum*. (Country gentleman. Aug. 13, 1871. 36: 552^{34a})

Identification of this 'walking stick' from Columbia, Missouri.

Dryocampa [*Basilona*] *imperialis* Drury. (Country gentleman. Sep. 27, 1871. 36: 600²⁶)

Description of the moth and note on its transformations and habits.

Pieris rapae parasites. (American naturalist. 1871. 5: 742; Canadian entomologist. November 1871. 3: 197)

Notice of an attack by *Pteromalus*, probably *P. puparum*, on the larvae of the cabbage butterfly.

Cabbage butterfly. (Country gentleman. Nov. 16, 1871. 36: 728¹⁶)

Pieris rapae in Delaware, and discovery of its parasite, *Pteromalus puparum*, in Albany, N. Y.

^a The superior figures point to the column and the exact place on the page in ninths; e. g. 552³⁴ means page 552, column three, four ninths of the way down.

- Cut worms in corn. (Country gentleman. May 30, 1872. 37:339²¹)
 Notice of young cut worms in corn, probably those of *Mamestra* [*Xylophasia*] *arctica* Boisd.
- Apple twig borer on pear trees. (Country gentleman. June 13, 1872. 37:375²¹)
 General notice of *Amphicerus bicaudatus* Say.
- Spindle worms. (Country gentleman. June 13, 1872. 37:376¹⁸)
 Caterpillars attacking corn are thought to be a species of *Gortyna* [*?Hydroecia*].
- Hessian fly. (Country gentleman. June 13, 1872. 37:376²⁶)
 Insect is identified from Franklin co., Ohio.
- Bark louse. (Country gentleman. July 11, 1872. 37:440²⁸)
 Notice of a species of *Coccus* infesting a thorn hedge in Windsor, Canada.
- Owl beetle. (Country gentleman. July 18, 1872. 37:456¹⁴)
 Description and habits of *Alaus oculatus* Linn.
- Revision of some of the American butterflies. (American naturalist. 1872. 6:354-59)
 Review of a paper under the above title published by Samuel H. Scudder, in the report of the Peabody academy of science, 1871, p. 24-82.
- Entomological contributions—no. 1 1872. p. 5-90, pl. 7-8. New York state cabinet of natural history. 23d annual report, 1869. p. 135-222.

Contents

Biography of <i>Hemileuca maia</i> Drury	5
Observations on <i>Melitaea</i> [<i>Euphydryas</i>] <i>phaëton</i> Fabr.	22
Notes on <i>Melitaea</i> [<i>Charidryas</i>] <i>nycteis</i> Doubl.	26
Notes on <i>Pieris oleracea</i> Harris	28
Descriptions of new species of Nisoniades	30
<i>Nisoniades</i> [<i>Thanaos</i>] <i>icelus</i> , <i>N.</i> [<i>Thanaos</i>] <i>lucilius</i> and <i>N.</i> [<i>Thanaos</i>] <i>ausonius</i> described.	
Descriptions of a new Sphinx	37
<i>Ellema pineum</i> described.	
List of Sphingidae occurring in the state of New York	40
40 species are recorded and their principal synonyms given.	
List of butterflies occurring in the state of New York	44
Embraces 113 species, with notes on those of rare occurrence, and mention of 13 others which may be presumed to occur in the state.	
Calendar of butterflies for the year 1869	48
Contains notes on 63 species as they appeared successively, from <i>Thecla</i> [<i>Incisalia</i>] <i>irus</i> Godt., on April 27, to <i>Pamphila</i> [<i>Anthomaster</i>] <i>leonardus</i> Harris on Aug. 20.	
Dates of collection of New York Heterocera	56
Contains dates of collection of 94 species during the year 1869, and of 200 species in prior years.	
List of North American Lepidoptera contained in 'Species Général des Lépidoptères' by A. Guenée	66
Embraces above 600 species giving habitat and notes on the same.	
Notes on <i>Cucullia intermedia</i> Speyer	81
Notes on the life history of this species and also on <i>C. convexipennis</i> .	

Entomological contributions—no. 2. 1872. p. 5-66. New York state museum of natural history. 24th annual report, 1870. 1872. p. 109-70.

Contents

On the larva and imago of <i>Sesia</i> [<i>Hemaris</i>] <i>diffinis</i> Harris.....	5
Transformations of <i>Sesia</i> [<i>Hemaris</i>] <i>buffaloensis</i> Gr.-Rob.....	8
On the larva and pupa of <i>Thyreus abbotii</i> Swainson	10
On the larva of <i>Philampelus achemon</i> Drury.....	13
<i>Smerinthus geminatus</i> Say and its supposed varieties.....	15
Transformations of <i>Daremma</i> [<i>Ceratomia</i>] <i>undulosa</i> Walker.....	24
Notes on <i>Plataretia parthenos</i> Harr. [<i>hyperborea</i> Curt.].....	28
Notes on <i>Euprepia americana</i> Harris [var. of <i>Aretia caja</i> Linn.].....	30
Notes on <i>Euchaetes egle</i> Drury	32
Transformations of <i>Lagoa</i> [<i>Megalopyge</i>] <i>crispata</i> Packard.....	34
Transformations of <i>Hyperchiria</i> [<i>Automeris</i>] <i>io</i> Fabr.....	42
Transformations of <i>Eacles</i> [<i>Basilona</i>] <i>imperialis</i> Drury.....	46
Larval notes on <i>Anisota senatoria</i> Smith	51
Calendar of butterflies for the year 1870.....	53
Dates of collection of some Heterocera for 1870.....	64

Hypena scabra Fabr. and *H. erectalis* Guen. [*scabra*] (Canadian entomologist. May 1873. 5 : 81-82)

The synonymy of these two species and of *Depressaria ontariella* [*D. heracliana* De Geer]

Entomology. [Remarks on Myrmeleon, Termes, etc., at a field meeting of the Albany institute at Schoharie, N. Y., June 7, 1873] (Albany evening times. June 9, 1873. 17 : 3; Albany institute. Proceedings. 1878. 2 : 48-50)

Remarks upon the ant lion, Myrmeleon sp., the white ant *Termes flavipes*, the cabbage butterfly *Pieris rapae*, etc.

Economic entomology, etc. [Remarks made at a field meeting of the Albany institute at Watkins Glen, N. Y., June 27, 1873] (Albany evening times. June 30, 1873. 17 : 3, col. 3, 4, 62 cm; Albany institute. Proceedings. 1878. 2 : 65-69)

General remarks on insects, their injuries, parasites, etc.

Caterpillar [on apple-tree]. (Country gentleman. July 17, 1873. 38 : 45⁶²⁵)

Caterpillars from Ottumwa, Iowa, prove to be *Notodonta* [*Schizura*] *concinna*. Sm.-Abb.

Coccus insect on the pine. (Country gentleman. Aug. 21, 1873. 38 : 53⁵¹⁴)

Features of *Coccus* [*Chermes*] *pinicorticis* Fitch, its operations, and remedies.

Entomological contributions—no 3. May 1874. 3: 117-92. New York state museum of natural history. 26th annual report, 1872 1874. p. 117-92, fig. 1-14.

Contents

On the larva of <i>Eudryas unio</i> Hübn. and allied forms.....	117
Larvae of <i>Eudryas</i> [<i>Euthisanotia</i>] <i>unio</i> , <i>Eudryas</i> [<i>Euthisanotia</i>] <i>grata</i> Fabr., <i>Alypia octomaculata</i> Hübn. and <i>Psycomorpha epimenis</i> Drury are described.	
Transformations of some Bombycidae	125
Transformations of the following-named species are given: <i>Platysamia</i> [<i>Samia</i>] <i>cecropia</i> Linn., <i>Callosamia promethea</i> Drury and <i>Actias</i> [<i>Tropaea</i>] <i>luna</i> Linn.	
Descriptions of the larvae of some Bombycidae.....	129
Descriptions are given of the following: <i>Parorgyia parallela</i> Gr.-Rob. [<i>Olene achatina</i> Sm.-Abb.], <i>Apatelodes angelica</i> Grote, <i>Coelodasys</i> [<i>Schizura</i>] <i>unicornis</i> Sm.-Abb. <i>Platyserura</i> [<i>Panthea</i>] <i>furcilla</i> Pack, <i>Dryocampa</i> [<i>Anistota</i>] <i>rubicunda</i> Fabr. and <i>Tolyte velleda</i> Stoll.	
Descriptions of the larvae of some Noctuidae	135
<i>Acronycta americana</i> [erroneous reference of <i>A. funeralis</i> Gr.-Rob.], <i>Acronycta morula</i> Gr.-Rob., <i>Ceramica</i> [<i>Mamestra</i>] <i>picta</i> , <i>Cucullia converipennis</i> Gr.-Rob., <i>Cucullia asteroides</i> Guen., and <i>Catocala</i> sp.? are described.	
Notes on some New York Bombycidae.....	142
Contains descriptions or notes, mainly larval, of the following species: <i>Callimorpha</i> [<i>Haploa</i>] <i>leontii</i> Boisd., <i>Arctia</i> [<i>Euprepia</i>] <i>arge</i> Drury, <i>Spilosoma virginica</i> Fabr., <i>Spilosoma latipennis</i> Stretch, <i>Euchaetes oregonensis</i> Stretch, <i>Euchaetes collaris</i> Fitch [<i>Cynia tenera</i> Hübn.], <i>Ichthyura vau</i> Fitch [<i>Melalopha apicalis</i> Walk.] <i>Halisidota caryae</i> Harris, <i>Orgyia</i> [<i>Notolophus</i>] <i>leucostigma</i> Sm.-Abb., <i>Empretia</i> [<i>Sibine</i>] <i>stimulea</i> Clem., <i>Phobetron pithecium</i> Sm.-Abb., <i>Lithacodes</i> [<i>Tortricidia</i>] <i>fasciola</i> Her.-Sch, <i>Nadata gibbosa</i> Sm.-Abb., <i>Notodonta</i> sp.?, <i>Edema</i> [<i>Symmerista</i>] <i>albifrons</i> Sm.-Abb., <i>Cerura borealis</i> Boisd., <i>Teia polyphemus</i> Linn., <i>Actias</i> [<i>Tropaea</i>] <i>luna</i> Linn, <i>Hemileuca maia</i> Drury, <i>Gastropacha</i> [<i>Phyllodesma</i>] <i>americana</i> Harris, <i>Clisiocampa americana</i> Fabr., <i>Ctenucha virginica</i> Charp., and <i>Scepsis fulvicollis</i> Hübn.	
Notes on some New York Noctuidae.....	157
The following species are noticed: <i>Diphtera</i> [<i>Charadra</i>] <i>deridens</i> Guen., <i>Acronycta americana</i> [erroneous reference of <i>A. funeralis</i> Gr.-Rob.], <i>Acronycta oblinita</i> Sm.-Abb., <i>Agrotis tricola</i> nov. sp. [<i>Feltia</i> , <i>jaculifera</i> Guen.], <i>Hadena</i> [<i>Xylophasia</i>] <i>lignicolor</i> Guen., <i>Hadena</i> [<i>Mamestra</i>] <i>adjuncta</i> Boisd., <i>Cucullia florea</i> Guen., ? <i>Chariclea exprimens</i> Walk. [<i>Pyrrhia umbra</i> Hübn.], <i>Chamyris cerintha</i> Treits., <i>Plusia balluca</i> Hübn., <i>Plusia aeroides</i> Grote, <i>Scoliopteryx libatrix</i> Linn., <i>Catocala parta</i> Guen., <i>Mesographe</i> [<i>Evergestis</i>] <i>stramentalis</i> Hübn., <i>Nematocampa filamentaria</i> Guen. [<i>Ania limbata</i> Haw.], <i>Ennomos magnaria</i> Guen., <i>Amphidasys</i> [<i>Lycia</i>] <i>cognataria</i> Guen., <i>Abraxas</i> [<i>Diastictis</i>] <i>ribearia</i> Fitch. Also, Notes on the seasons of 1858 and 1859.	
Descriptions of new species of <i>Cucullia</i>	168
<i>Cucullia speyeri</i> and <i>C. serraticornis</i> described.	
Observation of some New York Rhopalocera, 1871	177
Gives dates of observation of 46 species of butterflies, up to July 7, when the record was suspended.	
Dates of collection of some New York Heterocera, 1872	179
List of 140 species, also, of 59 taken in preceding years.	
Description of a convenient insect case.....	185
[Also in <i>Insects of Missouri</i> , 5th report, 1873, p. 38-40, and in Dr Riley's <i>Directions for collecting and preserving insects</i> , p. 101-4, published by the Smithsonian institution, in 1892]	
Describes the construction of several insect cases.	

- Three lined leaf beetle. (Country gentleman. July 23, 1874. 39: 471¹³)
 Brief general notice of *Lema trilineata* Oliv.
- Soldier bug. (Country gentleman. July 23, 1874. 39: 471¹⁷)
Arma [*Podisus*] *spinosa* Dallas, is noticed as an enemy of the Colorado potato beetle.
- A timothy eater. (Country gentleman. July 23, 1874. 39: 471²²)
 Subsequently proved to be the larva of *Leucania* species.
- Raspberry borer. (Country gentleman. July 30, 1874. 39: 487¹⁶)
 Description of *Oberea tripunctata* Fabr. [*bimaculata* Oliv.] and its girdling the canes of the raspberry.
- Insect on the potato. (Country gentleman. July 30, 1874. 39: 488¹⁷)
 Notice of *Cosmopepla carnifex* injuring potato vines.
- Joint worm. (Country gentleman. Sep. 10, 1874. 39: 584¹⁷)
 Galls and transformations of *Isosoma hordei* Harris are described.
- Cimex* [*Acanthia*] *lectularius*. (Country gentleman. Sep. 24, 1874. 39: 615⁴³)
 General account of the bed bug, *Acanthia lectularia* Linn.
- Maple leaf cutter. (Country gentleman. Oct. 1, 1874. 39: 631¹⁴)
 General account of *Ornix* [*Incurvaria*] *acerifoliella* Fitch destroying maple forests in Pittsford, Vt.
- Cattle tick. (Country gentleman. Oct. 1, 1874. 39: 631²²)
 Appearance and habits of *Ixodes* [*Boophilus*] *bovis* Riley.
- Oil beetle. (Country gentleman. Oct. 15, 1874. 39: 663⁴³)
 Short notice of the habits and vesicating properties of *Meloë angusticollis* Say.
- Mr Otto Meske's collection of Lepidoptera. (Albany evening times. Oct. 27, 1874. Albany institute. Transactions, 1876. 8: 215-20)
 Notice of the valuable features of this collection.
- Description of a new species of *Calocampa*. (Buffalo society of natural sciences. Bulletin 2. October 1874. p. 188-89)
Calocampa nupera is described as a new species.
- Record of collections of New York Heterocera for the year 1873. (New York state museum of natural history. 27th annual report, 1875. p. 144-48)
 Lists 135 species, with localities and dates of capture.
- New apple worm. (Albany evening times. Ap. 12, 1875. 19: 2, col. 3-4; New York state museum of natural history. 30th report, 1878. p. 117-21, with additional matter, p. 121-26; Entomological contributions. June 1878. 4: 5-14)
 General account of *Mermis acuminata* Leidy with special reference to its being a parasite of *Carpocapsa pomonella* larvae.

- New apple worm. (Country gentleman. Ap. 29, 1875. 40: 262⁴²-63¹¹)
Mermis sp. [*acuminata*], a parasite on *Carpocapsa pomonella*.
- Insect on the cabbage. (Country gentleman. June 24, 1875. 40: 392¹⁷)
Identification and notice of *Murgantia histrionica*, from Charlottesville, Va.
- Blister beetles. (Country gentleman. July 1, 1875. 40: 407¹⁵)
Account of *Lytta murina* [*Macrobasis unicolor* Kirby] on potato vines.
- Cocoons on oats. (Country gentleman. July 8, 1875. 40: 424²¹)
Cocoons are of some parasite which could not be determined.
- Worm on wheat. (Country gentleman. July 15, 1875. 40: 440²⁸)
Caterpillar is that of *Leucania harveyi* [*albilinea* Hübn.].
- Insects on potatoes. (Country gentleman. July 22, 1875. 40: 472²⁸)
Notice of an attack on potatoes by *Lygus lineolaris* [*pratensis* Linu.].
- On *Lycaena neglecta* Edw. [*Cyaniris pseudargiolus* var.]. (Canadian entomologist. July 1875. 7: 122-23)
Reasons for differing from Mr W. H. Edwards in his belief of the identity of *L. neglecta* with *L. lucia* [vars. of *Cyaniris pseudargiolus*] based on observations made at Center, N. Y.
- On *Orthosia ralla* Gr.-Rob (Canadian entomologist. July 1875. 7: 128-29)
Orthosia ralla is not identical with *O. ferruginoides* Guen. [*bicolorago* Guen. var.]
- Carpocapsa deshaiziana* [*saltitans*] in seed-vessels of Euphorbia. [Read before the Albany institute Oct. 5, 1875] (Argus [Albany] Oct. 11, 1875; Albany institute. Proceedings. 1878. 2: 264-67)
General account of *Carpocapsa deshaiziana* [*saltitans*] and notice of a Podurid [*Achorutes diversiceps* Lintn.] at Center, N. Y.
- Cucullia laetifica* Lintn. (*n. sp.*) (Check-list of the Noctuidae of America, north of Mexico, by A. R. Grote, November 1875. 1: 24-25)
This species is described from a specimen from Bastrop, Texas, in the collection of Mr O. Meske.
- List of Catocalas occurring in the state of New York. (New York state museum of natural history. 27th annual report, 1875. p. 137-40)
Contains 43 species, with references and synonyms.
- List of new species of New York Lepidoptera published in 1873. (New York state museum of natural history. 27th annual report. 1875. p. 141-43)
Contains 80 species, mainly by A. R. Grote, in the *Noctuidae* and *Deltoidae* [the latter family united with the former by recent writers].

On *Catocala pretiosa* n. sp. [*C. crataegi* Saund. var.] (Canadian entomologist. July 1876. 8: 121-22)

Described from examples taken at sugar in Schenectady, N. Y., and compared with *C. polygama* Guen. [*C. grynea* Cram.]

Destructive caterpillar. (Country gentleman. Aug. 10, 1876. 41:504²⁷)

Caterpillar eating apple leaves in a young orchard at Manlius, N. Y., is probably *Notodonta* [*Schizura*] *concinna* Sm.-Abb.

Cabbage eating insect. (Country gentleman. Sep. 7, 1876. 41:565³⁷)

Brief account of *Strachia* [*Murgantia*] *histrionica* Hahn as a cabbage pest at Nashville, Tenn.

Grape seed fly. (Country gentlemen. Sep. 21, 1876. 41:599¹⁴)

Isosoma [*Evoxysoma*] *vitis* Saund. is the insect infesting grapes received from New Jersey. Its operations are described and remedies for its attack given.

New carpet bug pest—*Anthrenus scrophulariae*. [Read before the Albany institute, Oct. 17, 1876] (Argus [Albany] Oct. 21, 1876; Schenectady daily union. Oct. 21, 1876; Buffalo courier. Oct. 29, 1876; Albany institute. Proceedings, 1878. 2:313-15)

Notice of the introduction and spread of the carpet beetle, *Anthrenus scrophulariae* Linn.

Insects in flour. (Country gentleman. Oct. 26, 1876. 41:683³⁵)

Wheat flour swarming with *Tyroglyphus farinae* [siro Linn.] was received, and a brief account of the mite is given.

Scale insects. (Country gentleman. Feb. 1, 1877. 42:69²²)

The following on pear and apple trees are noticed briefly: *Aspidiotus harrisii* Walsh [*Chionaspis furfurus* Fitch] and *Aspidiotus conchiformis* Gmel. [*Mytilaspis pomorum* Bouché].

Bark lice. (Country gentleman. Mar. 8, 1877. 42:151⁴¹)

Notice of Harris' bark louse [*Chionaspis furfurus* Fitch] and description of the oyster shell bark louse.

Apple tree insects. (Country gentleman. Ap. 12, 1877. 42:235⁴³)

Oviposition of some tree hoppers, and of the flower cricket, *Oecanthus niveus* DeGeer, is identified.

Insects of 1876 — 1. (Country gentleman May 31, 1877. 42:347²³)

Army worm, *Leucania unipuncta* Haw., Colorado potato beetle and grape seed fly, *Isosoma* [*Evoxysoma*] *vitis*, are treated of to some extent.

Insects of 1876 — 2. The new carpet bug. (Country gentleman. June 7, 1877. 42:363²¹)

Notice of *Anthrenus scrophulariae* and a new potato insect.

Insect on peach trees. (Country gentleman. June 7, 1877. 42:363³⁶)

Unknown caterpillar infesting the twigs of peach trees [probably *Anarsia lineatella* Zeller] can not be identified.

Parasitic insect. (Country gentleman. July 12, 1877. 42:448²¹)

Young hemipterous insect from Cecil co., Md., are probably *Prionotus* [*Prionotus*] *cristatus* Linn.

Gooseberry fruit worm. (Country gentleman. July 12, 1877. 42:448²⁶)

Brief notice of *Pempelia* [*Zophodia*] *grossulariae* Pack. infesting gooseberries.

Tree hoppers. (Country gentleman. July 19, 1877. 42:463⁴²)

Identifies the egg deposit of one of the tree hoppers [probably *Ceresa bubalus*] in apple twigs.

Eastern grasshopper. (Country gentleman. July 26, 1877. 42:475⁴²)

Destructive work of *Caloptenus* [*Melanoplus*] *femur-rubrum* DeGeer in Virginia.

Blistering beetles. (Country gentleman. July 26, 1877. 42:476²⁷)

Brief notice of *Epicaula cinerea* Foerst and *Lytta* [*Cantharis*] *nuttalli* Say, on potatoes and beans.

On a new species of *Cossus*. (Canadian entomologist. July 1877.

9:129-30)

Description of *Cossus centerensis* Lintn.

Carpet bug. (Country gentleman. Aug. 2, 1877. 42:491²⁷)

General account of *Anthrenus scrophulariae* Linn.

Grape vine hog caterpillar. (Country gentleman. Sep. 6, 1877.

42:571³²)

Short notice of *Darapsa* [*Ampelophaga*] *myron* Cram.

Pernicious corn insect—the Indian *Cetonia*. (Country gentleman.

Sep. 13, 1877. 42:585³⁸)

Injuries by *Cetonia* [*Euphoria*] *inda* Linn. to corn and fruit.

Aphis in wheat. (Country gentleman. Dec. 6, 1877. 42:779²¹)

Aphis infesting the stalks of young wheat can not be *Aphis avenae* Fitch [*Nectarophora granaria*].

Pea weevil. (Country gentleman. Dec. 6, 1877. 42:780²⁵)

Bruchus scutellaris Fabr. [*chinensis* Linn.] is identified as the weevil infesting peas in Virginia.

Hessian fly. (Country gentleman. Jan. 24, 1878. 43:55³⁵)

Gives a brief account of *Cecidomyia destructor* Say.

Aquatic worm. (Country gentleman. Jan. 31, 1878. 43:72³⁵)

'Animalculæ' sent from a well in Winsted, Ct., are described briefly but can not be identified.

Grain aphis. (Country gentleman. Ap. 11, 1878. 43:232²⁴)

Aphis avenae [*Nectarophora granaria*] is identified from Bellbuckle, Tenn.

Insect for name. (Country gentleman. Ap. 18, 1878. 43: 248²²)

Flat oval eggs of *Phylloptera* [*Amblycorypha*] *oblongifolia* on grapevine are identified.

Insects for name. (Country gentleman. Ap. 25, 1878. 43: 264²⁵)

Beetles plowed up in hundreds are the common June bug, *Lachnosterna fusca* Frohl. and *Phyllophaga pilosicollis* Knoch [*Lachnosterna tristis* Fabr.]

Raspberry cane borer. (Country gentleman. May 23, 1878. 43: 328¹⁶)

Girdling of raspberry canes is referred to *Oberea tripunctata* [*bimaculata* Oliv.].

Two beetles. (Country gentleman. May 30, 1878. 43: 344²³)

Brief notice of *Chrysomela trimaculata* [*Doryphora clivicollis* Kirby] and *Coptocyclus guttata* Oliv. [*signifera* Herbst].

Insects for name. (Country gentleman. June 13, 1878. 43: 376²⁴)

Bibio albipennis, *Dermestes lardarius*, *Aphis avenae* [*Nectarophora granaria*] are identified.

Peach twig moth. (Country gentleman. June 27, 1878. 43: 407¹⁹)

General account of *Anarsia lineatella* Zeller.

Grape vine coccus. (Country gentleman. July 4, 1878. 43: 423³⁶)

Brief mention of a scale on grape vines.

Insects in Illinois. (Country gentleman. July 4, 1878. 43: 425²⁸)

Insects sent from Champaign co., Ill., are identified as *Lecanium acericola* [probably an erroneous reference of *Pulvinaria innumerabilis* Rathv.].

Apple bark and pear blight beetles. (Country gentleman. July 18, 1878. 43: 455¹⁴)

Notice of *Xyleborus pyri* Peck [*dispar* Fabr.] and *Crypturgus* [*Monarthrum*] *mali* Fitch.

Cockscomb elm gall. (Country gentleman. July 18, 1878. 43: 455²⁵)

Brief account of *Byrsocripta* [*Glyphina*] *ulmicola* Fitch.

Apple tree insect. (Country gentleman. July 25, 1878. 43: 471¹²)

Larvae in crevices of a limb, apparently hymenopterous, can not be identified.

Maple bark scale insect—*Lecanium aceriscorticis* [*Pulvinaria innumerabilis*]. (Country gentleman. July 25, 1878. 43: 471¹⁷)

General account of this insect, giving previous history, habits and remedies.

Preface and notes to the genera of the Hesperidae of the European faunal region, by Dr Speyer. (Canadian entomologist. July, August and September 1878. 10: 121, 122, 123-24, 125, 126, 146, 151, 163, 169)

Introduction and corrections to the above paper.

Phylloxera. (Country gentleman. Aug. 1, 1878. 43: 488²³)

Brief notice of *Phylloxera vastatrix* [*vitifoliae*].

Burrowing beetle — *Cebrio bicolor*. (Country gentleman. Aug. 8, 1878. 43: 507³⁵)

Beetle is identified and its habits given.

Ugly bee slayer. (Country gentleman. Aug. 29, 1878. 43: 551¹⁴)

Account of *Phymata erosa* [wolfi] capturing butterflies, bees, etc.

Squash vine borer. (Country gentleman. Aug. 29, 1878. 43: 571²⁴)

Notice of *Melittia cucurbitae* Har. [*s atyriniformis* Hübn.] attacking squash vines.

Phylloxera. (Country gentleman. Aug. 29, 1878. 43: 551³⁴)

Galls on grape leaves are identified as those of *Phylloxera vastatrix* [vitifoliae].

New carpet beetle—*Anthrenus scrophulariae*. (Entomological contributions. June 1878. 4: 15–23, figure. American naturalist. August 1878. 12: 536–44. New York state museum of natural history. 30th annual report. 1878. p. 127–35)

General account of the discovery and life history of this insect, with remedies.

Report on the insects and other animal forms of Caledonia creek, N. Y. (New York fishery commission. 10th annual report, 1877 and 1878. p. 12–36, pl. 1–2. Also, separate, with title page and cover, p. 1–25, pl. 1–2, August 1878)

Extended report of the forms of life inhabiting the waters of the creek with special reference to their value as food for fishes.

Annual address of the president [of the Entomological club of the American association for the advancement of science, at St Louis, Mo., Aug. 20, 1878]. (Canadian entomologist. September 1878. 10: 171–76)

Review of progress and the present status of entomology.

Turnip flea beetle. (Country gentleman. Sep. 12, 1878. 43: 583²⁴)

Larvae destroying turnips are identified as those of *Haltica striolata* [*Phyllotreta vittata* Fabr.].

Carpet beetle. (Country gentleman. Sep. 12, 1878. 43: 583²⁸)

Brief general notice of *Anthrenus scrophulariae*.

Harlequin cabbage bug. (Country gentleman. Sep. 26, 1878. 43: 616¹⁶)

An insect destroying cabbages, *Murgantia histrionica* Hahn, is noticed briefly.

Cabbage aphid. (Country gentleman. Nov. 14, 1878. 43: 727¹⁸)

Aphid attacking turnips, *Aphis brassicae* Linn., is identified and remedies indicated.

Economic entomology during the year 1877. (New York state agricultural society. 37th annual report. 1878. p. 37-39. — Transactions. 1877-82. 1884. 33:17-20)

Importance of economic entomology with notices of *Nephopteryx* [*Pinipestis*] *zimmermani* and *Cossus centerensis*.

Contribution to the economical entomology of the year 1876. (New York state agricultural society. Transactions. 1872-76. 1878. 32:236-43) [Paper presented at the annual meeting of the state agricultural society, Jan. 17, 1877] (Country gentleman. May 31, June 7, 1877. 47: 347²³, 363²¹)

Notices army worm, *Leucania unipuncta*, Colorado potato beetle, grape seed fly, new carpet beetle, *Anthrenus scrophulariae*, and an unknown insect tunneling potatoes.

Description of a new species of *Anisota*. (Canadian entomologist. January 1879. 11: 10-12)

Anisota [*Sphingicampa*] *bisecta* is described.

Peach tree borer. (Country gentleman. Mar. 27, 1879. 44: 199²⁶)

Notice of the peach tree borer and plum curculio.

Clover seed fly — a new insect pest. (American naturalist. March 1879. 13: 190)

Notice of a paper treating of *Cecidomyia trifolii* [*leguminicola*].

Clover seed fly — a new insect pest. (Canadian entomologist. March 1879. 11: 44-45; Entomological society of Ontario. Annual report. 1879. p. 28-30)

Account and description of *Cecidomyia trifolii* [*leguminicola*].

Poduridae (spring tails) in a cistern. (Country gentleman. May 22, 1879. 44: 327²¹)

Notice of *Lipura fimetaria* [*Aphorura armata*] and an allied species [probably *Achorutes diversiceps*] observed at Center, N. Y.

Two spotted lady bug. (Country gentleman. June 26, 1879. 44: 407¹⁹)

Beetle mistaken for the carpet bag, is *Coccinella bimaculata* [*Adalia bipunctata* Linn.]

Strawberry borers. (Country gentleman. June 26, 1879. 44: 407²⁴)

'Worms' infesting strawberry roots are identified as the strawberry crown borer, *Anarsia lineatella*.

Golden tortoise beetle. (Country gentleman. June 26, 1879. 44: 407²⁶)

Beetles on potato vines, *Cassida aurichalcea* Fabr. [*Coptocycla bicolor* Fabr.] are identified.

Grape vine galls. (Country gentleman. June 26, 1879. 44: 407²⁷)

Galls on grape vine are those of *Lasioptera vitis* Osten Sacken.

Entomological contributions — no. 4. New York state museum of natural history. 30th report. 1879. p. 117-254. Separate, in advance of the report, with title page, table of contents, index and cover, June 1878. 144 p.

Contents

	PAGE
1 On <i>Mermis acuminata</i> Leidy.....	5
2 New carpet bug — <i>Anthrenus scrophulariae</i> Linn.....	15
3 <i>Isosoma</i> [<i>Eroxysoma</i>] <i>vitis</i> Saunders — the grape seed fly.....	24
4 List of Lepidoptera, collected by W. W. Hill, in the Adirondack region of New York.....	29
5 Collections of Noctuidae, at Schenectady, N. Y., in 1875.....	43
6 On some Lepidoptera common to the United States and Patagonia	52
7 On <i>Lycaena neglecta</i> Edw. [<i>Cyaniris pseudargiolus</i> var.].....	55
8 Descriptions of two new species of California butterflies (<i>Lycaena lotis</i> [<i>Cyaniris pseudargiolus</i> var.] and <i>Pamphila osceola</i>)	57
9 On some species of Nisoniades (<i>N.</i> [<i>Thanaos</i>] <i>pacuvius</i> n. sp., <i>N.</i> [<i>Thanaos</i>] <i>funeralis</i> Scudd.-Burg., <i>N.</i> [<i>Thanaos</i>] <i>tristis</i> Boisd., <i>N.</i> [<i>Thanaos</i>] <i>afranius</i> n. sp., <i>N.</i> [<i>Thanaos</i>] <i>icelus</i> Lintn., <i>N.</i> [<i>Thanaos</i>] <i>brizo</i> Boisd.-Lec., <i>N.</i> [<i>Thanaos</i>] <i>martialis</i> Scudd., <i>N.</i> [<i>Thanaos</i>] <i>persius</i> Scudd., <i>N.</i> [<i>Thanaos</i>] <i>juvenalis</i> Fabr.).....	60
10 Transformations of <i>Nisoniades</i> [<i>Thanaos</i>] <i>lucilius</i> Lintn	67
11 Description of <i>Eudamus epigena</i> Butler [<i>epigona</i> H.-S.]	69
12 Systematic arrangement of the European and some American Hesperidae.	71
13 Notes on <i>Notodonta dictaea</i> [<i>Pheosia dimidiata</i>]	76
14 On some new species of <i>Cerura</i> (<i>C. occidentalis</i> , <i>C. aquilonaris</i> [<i>scolopendrina</i> Boisd.] and <i>C. candida</i> [<i>scitisscripta</i> Walk.] Also of <i>C. borealis</i> Boisd.)	82
15 On <i>Caradrina fidicularia</i> Morr. [<i>multifera</i> Walk.]	89
16 Larva of <i>Homohadena badistriga</i> Grote	93
17 Descriptions of two new species of <i>Xylina</i> [<i>X. lepida</i> and <i>X. unimoda</i>] ...	95
18 Notes on <i>Cucullia laetifica</i> Lintn.....	98
19 Notes on <i>Catocala pretiosa</i> Lintn. [var. of <i>C. crataegi</i> Saund.]	100
20 On a new species of <i>Hypocala</i> [<i>H. hilli</i>].....	103
21 On the identity of <i>Homoptera lunata</i> and <i>H. edusa</i>	108
22 On the identity of two forms of Hypenidae (<i>Tortricodes bifidalis</i> and <i>T. indivisalis</i> [<i>Gaberasa ambigua</i> Walk.]	110
23 Descriptions of two new species of Phalaenidae (<i>Acidalia</i> [<i>Eois</i>] <i>lacteola</i> and <i>Cidaria packardata</i> [<i>Eustroma populata</i> Linn.].....	112
24 New locality for <i>Brephos infans</i> Moesch	115
25 Notes of captures of Lepidoptera in 1876, rare to the vicinity of Albany..	118
26 Notes on some Lepidoptera (<i>Grapta</i> [<i>Polygonia</i>] <i>satyrus</i> Edw. <i>Lycaena</i> [<i>Cyaniris</i>] <i>pseudargiolus</i> Boisd.-Lec., <i>Agrotis nigricans</i> var. <i>maizii</i> Fitch [<i>Carneades tessellata</i> Harr.], <i>Agrotis</i> [<i>Carneades</i>] <i>perpolita</i> Morr., <i>Agrotis cupida</i> Grote [<i>Rhynchagrotis anchocelioides</i> Guen.], <i>Agrotis</i> [<i>Rhynchagrotis</i>] <i>brunneicollis</i> Grote, <i>Cucullia intermedia</i> Speyer, <i>Xylina thaxteri</i> Grote var., <i>lambda</i> , <i>Hypena humuli</i> Fitch, <i>Depressaria lecontella</i> Clem., et al.....	121

- 27 On some species of Cossus (*Cossus reticulatus* n. sp. [*Prionoxystus robiniae* Peck], *C. undosus* n. sp., *C. plagiatus* Walk. [*Prionoxystus robiniae*], *C. crepera* Harr. [*Prionoxystus robiniae*], *C. querciperda* Fitch, [*Prionoxystus macmurtrei* Guer.]) 130
- Army worm—*Leucania unipuncta* Haw. (Country gentleman. July 3, 1879. 44: 422⁴⁴–23¹⁹)
General account of the insect, giving description, life history and parasites.
- Corn curculio—*Sphenophorus zea* Walsh [*sculptilis* Uhler]. (Country gentleman. July 10, 1879. 44: 439²¹.)
Brief general notice of this insect.
- Clover seed fly. (Country gentleman. July 17, 1879. 44: 455¹³)
Cecidomyia leguminiola proposed, as *C. trifolii* is preoccupied.
- Grape vine bark louse—*Lecanium vitis* Linn. [*Pulvinaria innumerabilis* Rathv.]. (Country gentleman. July 17, 1879. 44: 455¹⁸)
Scale insect on grape vine is identified and briefly noticed.
- Striped blister beetle. (Country gentleman. July 31, 1879. 44: 487¹⁶)
Epicauta vittata Fabr. is briefly treated as a potato pest.
- Inquiries about ants and beetles. (Country gentleman. July 31, 1879. 44: 487²⁷)
The following are noticed: *Formica novaeboracensis* Fitch [*Camponotus herculeaneus* Linn.], *Coptocycla aurichalcea* Fabr. [*bicolor* Fabr.] and *Melanotus fissilis* Say.
- On *Cecidomyia leguminicola*. (Canadian entomologist. July 1879. 11: 121–24)
C. leguminicola proposed for *C. trifolii* which is preoccupied.
- Stalk borer — *Gortyna* [*Hydroecia*] *nitela* Guen. (Country gentleman. Aug. 7, 1879. 44: 503²⁸)
General notice of this insect, giving its life history and remedies.
- Two carpet bugs. (Country gentleman. Aug. 7, 1879. 44: 503⁴²)
Larvae from beneath carpets are *Anthrenus scrophulariae* Linn. and *Attagenus megatoma* Fabr. [*piceus* Oliv.]
- Wheat stem maggot—*Meromyza americana* Fitch. (Country gentleman. Aug. 21, 1879. 44: 535³²)
General notice of the insect and its allies.
- Carpet beetle. (Country gentleman. Aug. 21, 1879. 44: 535⁴⁹)
Anthrenus scrophulariae received from Poughkeepsie, N. Y.
- Earth worm—*Lumbricus terrestris* Linn. (Country gentleman. Sep. 4, 1879. 44: 567²⁶)
Gives life history and habits so far as known.

Annual address of the president [of the Entomological club of the American association for the advancement of science, at Saratoga, N. Y., Aug. 26, 1879]. (Canadian entomologist. September 1879. 11: 163-75; Entomological society of Ontario. Annual report, 1879. p. 11-18; American entomologist. January, February 1880. 3: 16-19, 30-34)

Mainly a notice of the principal publications and investigations in entomology during the preceding year.

Two pests of the clover plant. (Country gentleman. Oct. 2, 1879. 44: 631³⁵)

Notice of the injuries to clover by *Hylesinus* [*Hylastes*] *trifolii* Mull, and *Cecidomyia leguminicola* Lintn.

Apple tree insect. (Country gentleman. Oct. 9, 1879. 44: 648¹⁸)

Coleopterous larva on an apple tree can not be identified.

Coccus on peach trees. (Country gentleman. Oct. 23, 1879. 44: 679²⁷)

Short notice of *Lecanium persicae* Modeer [*nigrofasciatum* Perg.]

Grape insect. (Country gentleman. Oct. 23, 1879. 44: 679³¹)

Brief mention of a caterpillar (*Procris* [*Harrisina*] *americana* Guer. See below)

Dung beetle. (Country gentleman. Oct. 30, 1879. 44: 695⁴⁶)

Brief account of the tumbler bug, *Aphodius inquinatus* Herbst, and allied species.

Five spotted sphinx. (Country gentleman. Oct. 30, 1879. 44: 696¹⁶)

Tobacco worm, *Sphinx quinquemaculata* Haw. [*Phlegethontius ccleus* Hübn.] identified and its habits given.

Apple tree insects. (Country gentleman. Nov. 6, 1879. 44: 711³⁵)

Treats of two larvae infesting apple trees, one is probably a *Chrysobothris*.

Grape insect—*Procris* [*Harrisina*] *americana* Guer. (Country gentleman. Nov. 6, 1879. 44: 711⁴⁵)

Brief general account.

Coccus on peach trees—*Lecanium persicae* [*nigrofasciatum* Perg.] (Country gentleman. Nov. 6, 1879. 44: 711⁴⁶)

Identified and synonymy given.

Fitch biological collection of the New York state agricultural society. (Psyche. September—December 1879. 2: 275-76)

Describes the arrangement and character of the collection made by Dr Fitch and states that the Homoptera alone have escaped destruction.

Pickled fruit fly—*Drosophila ampelophila*. (Country gentleman, Jan. 1, 1880. 45: 7³⁸)

Life history and habits with notice of other species.

Rat-tail larva of a syrphus fly. (Country gentleman. Jan. 22, 1880. 45:55¹⁷)

Larvae taken from decaying mold are probably those of *Merodon bardus* Pack. [*Mallota posticata* Fabr.].

Report on some injurious insects of the year 1878. [Address delivered at the annual meeting of the New York state agricultural society, Jan. 22, 1879] (New York state agricultural society. 38th annual report. 1880. p. 61-72—Separate, with title page and cover, p. 14 [January] 1880. Also, in (New York state agricultural society, Transactions. 1877-82. 1884. 33:97-112)

Importance of the study of insects; *Cecidomyia trifolii* n. sp. [*leguminicola*] is described, *Anthrenus scrophulariae*, *Pulex irritans*, *Euryomia* [*Euphoria*] *inda* and *Anarsia lineatella* are noticed.

Poduridae (spring tails) in a well. (Country gentleman. Feb. 12, 1880. 45:103²²)

Species identified as *Lipura fimetaria* [*Aphorura armata*] and briefly noticed.

New wheat pest. (Country gentleman. Feb. 19, 1880. 45:120²⁹)

Cicadula [*Limotettix*] *exitiosa* is recorded as an insect injurious to wheat.

Entomology in America in 1879. (American entomologist. January and February 1880. 3: 16-19, 30-34)

Presidential address before the Entomological club of the American association for the advancement of science. Gives a review of progress during the year.

Apple curculio — *Anthonomus* [*Tachypterus*] *quadrigibbus* Say. (Country gentleman. Mar. 4, 1880. 45:150⁴⁷-51¹⁵)

General account of the insect, including life history, distribution and remedies.

Worms in rose pots — Larvae of *Bibio albipennis*. (Country gentleman. Mar. 11, 1880. 45:167¹²)

Larvae are identified as probably those of *Bibio albipennis*.

New wheat pest. (Country gentleman. Mar. 11, 1880. 45:167²³)

Not known whether *Cicadula* [*Limotettix*] *exitiosa* will attack clover in wheat fields.

Natural history of bacteria. (Country gentleman. Mar. 25, 1880. 45:203³³-4¹²)

General account of the nature of various bacteria.

Raspberry gouty gall beetle. (Country gentleman. Ap. 1, 1880. 45:215¹²)

Brief notice of *Agrilus ruficollis* Fabr.

- Wheat insects. (Country gentleman. Ap. 15, 1880. 45:247²²)
Habits of *Siphonophora avenae* [*Nectarophora granaria*], the work of its Chalcid parasites, etc.
- Apple leaf Bucculatrix — *Bucculatrix pomifoliella* Clemens. (Country gentleman. Ap. 22, 1880. 45:263²¹)
General account of the insect, giving life history and remedies.
- Diseased quince twigs. (Country gentleman. Ap. 22 1880. 45:264²⁴)
There is no evidence of insect attack.
- Poisonous centipede — *Cermatia* [*Scutigera*] *forceps* Raf. (Country gentleman. May 13, 1880. 45:311²¹)
Brief notice of its abundance in Albany.
- Rose bug — *Macrodactylus subspinosus* Fabr. (Country gentleman. June 24, 1880. 45:407¹⁴)
General account of this pest, giving habits, preventives and remedies.
- Tallow to preserve insect collections. (American entomologist. June 1880. 3:145-46)
The value of tallow as a repellant to various insects.
- Carpet bug — *Anthrenus scrophulariae* Linn. (Johnson's natural history, by S. G. Goodrich. 1880. 2:651-52, fig. a-d)
General account, giving its discovery in this country, life history and remedies.
- Potato beetle — *Coptocycla clavata* Fabr. (Country gentleman. July 1, 1880. 45:423²⁵)
Short notice as a potato insect.
- Cut worm moth. (Country gentleman. July 1, 1880. 45:424¹⁵)
Larva of *Agrotis* [*Noctua*] *clandestina* Harris is identified and habits given.
- Eggs of army worm. (Country gentleman. July 1, 1880. 45:424²⁶)
Eggs of *Leucania unipuncta* are identified.
- White grub worm — *Lachnosterna fusca* Frohl. (Country gentleman. July 8, 1880. 45:439¹⁴)
Records injuries by the grubs to lawns, remedies given.
- Hessian fly. (Country gentleman. July 8, 1880. 45:439¹⁷)
Brief general notice of *Cecidomyia destructor* Say.
- A leaf eater. (Country gentleman. July 8, 1880. 45:439³⁹)
Insect is identified as the hairy necked leaf eater, *Phyllophaga pilosicollis* Knoch [*Lachnosterna tristis* Fabr.].
- Squash borer. (Country gentleman. July 15, 1880. 45:455²⁵)
General account of *Aegeria cucurbitae* Harris [*Melittia satyriniformis* Hübn.] is given.

Stalk borer. (*Gortyna* [*Hydroecia*] *nitela* Guen.). (Country gentleman. July 22, 1880. 45:472¹⁹)

Record of injury to potatoes by this species.

Striped blister beetle—*Epicauta vittata*. (Country gentleman. July 29, 1880. 45:488¹⁵)

Beetles recorded as destructive to potatoes in Cayuga co., and about Albany.

Basket worm—*Thyridopteryx ephemeraeformis*. (Country gentleman. Aug. 19, 1880. 45:535⁴⁵)

Larva and moth described and remedies indicated.

Basket or bag worm—*Thyridopteryx ephemeraeformis*. (Country gentleman. Sep. 30, 1880. 45:631³⁶)

Reported as destroying arbor vitae hedges—habits and remedies given.

Caterpillars on the Ampelopsis. (Country gentleman. Oct 7, 1880. 45:647²⁶)

Two blue caterpillars are identified as *Alypia octomaculata* and *Eudryas* [*Euthisanotia*] *grata*, remedies are given.

Harlequin cabbage bug—*Murgantia histrionica* Hahn. (Country gentleman. Oct. 21, 1880. 45:679¹⁴)

General account of its spread northward and remedies.

Two spotted tree hopper—*Enchophyllum binotatum* [*Enchenopa binotata*]. (Country gentleman. Nov. 4, 1880. 45:711¹⁸)

Several stages described and the food plants and remedies given.

Flour paste flies. (Country gentleman. Nov. 18, 1880. 45:743²²)

Flies bred from flour paste are referred to *Drosophila ampelophila*.

Lepidoptera of the Adirondack region. Collected by W. W. Hill in 1875-78. (Progress of the topographical survey of the Adirondack region of New York. 7th annual report, by Verplanck Colvin. Albany 1880. p. 375-400. Separate, with title page and cover [November] 1880. p. 375-400)

Records 415 species collected, with sexes and dates of collection, and gives interesting facts about those taken.

Report on some injurious insects of the year 1879. [Presented to the New York state agricultural society at its annual meeting, Jan. 21, 1880] (New York state agricultural society. 39th annual report, 1880. p. 35-55) Also, in (New York state agricultural society. Transactions for 1877-82. 1884. 33:142-64, fig. 4)

After prefatory remarks the following insects are discussed: the clover seed midge, *Cecidomyia leguminicola* Lintn.; clover root borer, *Hylesinus* [*Hylastes*] *trifolii* Müll.; wheat stem maggot, *Meromyza americana* Fitch; corn curculio, *Sphenophorus zeae* [*sculptilis*]; stalk borer, *Gortyna* [*Hydroecia*] *nitela* Guen.; apple tree case bearer, *Coleophora malivorella* Riley, concluding with a notice of the entomologic labors of Dr Asa Fitch.

[Address before the farmers' club of Onondaga co., N. Y., Dec. 4, 1880]

(Syracuse morning standard. Dec. 6, 1880. p. 4)

General account of the value of economic entomology.

Bean weevil — *Bruchus fabae* Riley [*oblectus* Say]. (Country gentleman.

Jan. 6, 1881. 46: 7²¹)

Brief notice of its spread in this country and remedies.

Flight of Ephemera. (Country gentleman. Jan. 6, 1881. 46: 7²⁵)

Records a remarkable flight of Ephemeridae or day-flies.

On the importance of entomological studies. (Papilio. Jan. 15, 1881.

1: 1-2)

Shown by the literature and its relation to an extensive agriculture.

Description of a new species of Eudamus. (Canadian entomologist.

April 1881. 13: 63-65) Republished in (Injurious and other insects of the state of New York. 1st annual report, 1882. p. 338-39)

Describes *Eudamus* [*Thorybes*] *electra*, from an example captured in Hamilton, Ontario.

Asparagus beetle—*Crioceris asparagi* Linn. (Country gentleman. Ap.

14, 1881. 46: 243¹¹)

General account of its introduction, spread, life history and remedies.

Army worm. The invasion of northern New York by this destructive

pest. (Albany evening journal. May 23, 1881. p. 3; Country gentleman. June 2, 1881. 46: 359¹²)

Describes the ravages of a caterpillar [*Crambus vulgivagellus* Clem.], and indicates remedies.

On some species of Nisoniades. (Papilio. May 1881. 1: 69-74.

Separate, June 1881. p. 1-6) Republished in (Injurious and other insects of the state of New York. 1st annual report, 1882. p. 333-37)

Describes *Nisoniades* [*?Thanaos*] *naevius*, and *N.* [*?Thanaos*] *petronius* and *N.* [*Thanaos*] *somnus* and gives notes on *N.* [*?Thanaos*] *propertius*, *N.* [*?Thanaos*] *juvenalis*, *N.* [*Thanaos*] *icelus*, *Eudamus nevada* [*mexicana*] and *Eudamus proteus*.

'Army worm' invasion of northern New York. (St Lawrence republican.

June 8, 1881. p. 51)

General notice of the operations and habits of the caterpillars [*Crambus vulgivagellus* Clem.], some are identified as *Nephelodes violans* Guen. [var. of *N. minians* Guen.]

A new insect pest — not the army worm. (Country gentleman. June 9,

1881. 46: 375¹¹)

Insect in northern New York identified as *Nephelodes violans* Guen. [var. of *N. minians* Guen.]

- Insects on plum trees. (Country gentleman. June 9, 1881. 46: 376²³)
 Notices *Bibio femoratus* and the plum curculio.
- Mites in clothing. (Country gentleman. June 9, 1881. 46:376²⁶)
 Mites in a box of clothing were probably *Bryobia pratensis*.
- Late insect invaders of northern New York. (Albany evening journal. July 1, 1881)
 Larvae collected at Potsdam have been identified as *Nephelodes violans* Guen. [var. of *N. minians* Guen.] and *Crambus exsiccatu* Zeller [*trisectus* Walk.].
- Orchard caterpillar. (Country gentleman. July 14, 1881. 46:455³⁵)
 Apple tree tent caterpillar, *Clisiocampa americana* Fabr., is noticed.
- Worms on tomatoes. (Country gentleman. July 14, 1881. 46:456³²)
 'Light brown worm or fly,' can not be named without examples of the insect.
- Pear tree blight. (Middleburgh gazette. July ? 1881)
 Pear blight is described and treatment indicated.
- Insects and fungus on quinces. (Country gentleman. Aug. 18, 1881. 46:535¹⁶)
 Quince curculio, *Conotrachelus crataegi* Walsh, the apple worm, *Carpocapsa pomonella* Linn. and a fungus, *Roestelia aurantiaca* [aecidial form of *Gymnosporangium clavipes*], are noticed.
- Insect pest. Preservation of our shade trees from its ravages. (Albany evening journal. Aug. 31, 1881)
 General account of the white marked tussock moth, *Orgyia* [*Notolophus*] *leucostigma*.
- Insects on strawberry roots. (Country gentleman. Sep. 8, 1881. 46: 583¹⁸)
 Unable to identify the insect without examples.
- Apple leaf cluster cup fungus. (Country gentleman. Sep. 8, 1881. 46: 583²²)
 Brief notice of the fungus, *Oecidium pyratum* Schw. [aecidial form of *Gymnosporangium macropus*].
- Beetle on the tomato. (Country gentleman. Sep. 8, 1881. 46: 584³⁸)
 Ash gray blister beetle, *Epicauta cinerea* Forst. is recorded on the tomato.
- Crambus vulgivagellus* in northern New York. (St Lawrence republican. Sep. 14, 1881)
 Notes on this species—it is the depredator, not *Nephelodes violans* Guen. [var. of *N. minians* Guen.]

Injurious insects, with special notice of some new insect pests. [Read before the New York state agricultural society at Elmira, Sep. 13, 1881] (Husbandman [Elmira, N. Y.] Sep. 14, 1881. p. 3, 6, 7 — 5 col.; Country gentleman. Sep. 29, 1881. 46: 631²¹; Oct. 6, 1881. p. 647¹⁸. Republished in New York state agricultural society. 41st annual report, 1881. Albany [August] 1882. p. 40-50. New York state agricultural society. Transactions, 1877-82. 1884. 33: 221-34)

The following insects are noticed: vagabond Crambus, *Crambus vulgivagellus* Clem., punctured clover leaf weevil, *Phytonomus punctatus* Fabr. and a pyralid web caterpillar, *Eurycreon rantis* Guen. [*Loxostege similalis* Guen.]

Vagabond Crambus. (Ogdensburg [N. Y.] daily journal. Sep. 21, 1881)

This popular name proposed for *Crambus vulgivagellus* Clem., and remedies given.

Grass eating grub. (Country gentleman. Sep. 22, 1881. 46: 615²⁵)

Injuries by the white grub, *Lachnosterna fusca*, to grass, with remedies.

Barn beetle—*Lathridius pulicarius* Mels. [*ruficollis* Marsh.] (Country gentleman. Sep. 29, 1881. 46: 632²⁴)

Beetle infesting a barn is referred to this species.

Remarkable invasion of northern New York by a pyralid insect, *Crambus vulgivagellus*. [Abstract of a paper read before the American association for the advancement of science, at its Cincinnati meeting, in August 1881] (Science. Oct. 1, 1881. 2: 467; American association for the advancement of science. Proceedings, 1881. 30: 267-68)

Gives the principal features of the recent remarkable abundance of this insect and its injuries.

Peach pest—*Largus succinctus*. (Country gentleman. Oct. 13, 1881. 46: 663¹⁵)

Brief notice of this bug attacking nearly ripened peaches.

Insect enemies of the strawberry. (Country gentleman. Oct. 27, 1881. 46: 695²⁴)

Notices the following insects: White grub, goldsmith beetle, *Cotalpa lanigera*, *Allorhina nitida*, grape vine Colaspis, strawberry crown borer, strawberry aphid, and *Paria aterrima* Oliv. [*Typophorus canellus* Fabr.].

Insects of the clover plant. [Read before the New York state agricultural society, at its annual meeting, Jan. 19, 1881] (New York state agricultural society. 40th Annual report. 1880. p. 10-26, fig. 1-6. 1881. Separate, with t. p. cover, p. 17, fig. 6 [October] 1881) Republished in New York state agricultural society. Transactions, 1877-82. 33: 187-207)

Gives lists of insects depredating on clover and notices the following species: clover root borer, *Languria mozardi* Latr.; clover seed midge, *Cecidomyia leguminicola* Lintn.; clover leaf midge, *Cecidomyia trifolii* Loew; clover Oseinis, *Oscinis trifolii* Burg.

On the life duration of the heterocera (moths). [Read before the American association for the advancement of science, at its Cincinnati meeting, August 1881] (Canadian entomologist. November 1881. 13: 217-20) Republished in (Injurious and other insects of New York, 1st annual report. 1882. p. 339-41)

Gives the life duration in the following families: *Noctuidae*, *Attacinae* of the *Bombycidae*, *Sphingidae*.

Corn beetle. (Country gentleman. Nov. 3, 1881. 46: 711¹⁵)

Beetle feeding on corn is identified as *Lathridius pulicarius* Mels. [*ruficollis* Marsh].

Cabbage Plusia—*Plusia brassicae* Riley. (Country gentleman. Nov. 3, 1881. 46: 711²²)

General account of this insect, giving injuries, life history and remedies.

On the life duration of the heterocera (moths). [Abstract of a paper read before the A. A. A. S. at its Cincinnati meeting in August 1881] (Science. Nov. 5, 1881. 2: 525; Proceedings of the A. A. A. S., 1881. 30: 268-69)

Summary of the paper is given above.

Corn worm — *Heliothis armigera* [*armiger*] Hübner. (Country gentleman. Nov. 24, 1881. 46: 759²²; Ontario county times. Nov. 24, 1881. 31: 3)

General notice of an attack on corn by this insect.

Habits of the Phylloxera. (Country gentleman. Dec 17, 1881. 46: 779¹³)

Brief notice of *Phylloxera vitifoliae* on grape.

Bean weevil — *Bruchus obsoletus* Say [*obtectus* Say] (Country gentleman. Dec. 8, 1881. 46: 795¹⁵)

Brief account of this species and its allies.

Insects on sweet potato vines. (Country gentleman. Feb. 23, 1882. 47: 149²¹)

Larvae infesting sweet potato vines are probably those of *Coptocycla aurichalcea* Fabr. [*bicolor* Fabr.]

Entomological—The anatomy of the mouth parts and the sucking apparatus of some diptera. (Country gentleman. Feb. 23, 1882. 47: 151²⁷)

Review of a paper by Mr George Dimmock on this subject.

Millions of grasshoppers in midwinter. (Albany evening journal. Feb. 25, 1882)

Notice of *Tragocephala* [*Chortophaga*] *viridifasciata* on snow.

Winter grasshopper—*Tragocephala* [*Chortophaga*] *viridifasciata*. (Country gentleman. Mar. 9, 1882. 47:189²⁴)

A brief general notice of the insect.

Hickory borer—*Cyllene pictus* Drury. (Country gentleman. Mar. 9, 1882. 47:189²⁸)

Differences between this species and *C. robiniae*.

Apple leaf Bucculatrix. (Country gentleman. Mar. 16, 1882. 47:207¹⁸)

Small white ribbed cocoons upon apple tree bark are those of *Bucculatrix pomifoliella* Clemens.

New principle in protection from insect attack. [Read before the Western New York horticultural society, at its annual meeting, Jan. 25, 1882] (Western New York horticultural society. Proceedings. 1882, p. 52-66. Separate, with one-half title page cover, 15 p. [March, 1882])

Use of counterodorants as a preventive of insect attacks.

Insects that injure trees. (Country gentleman. Ap. 20, 1882. 47:313¹⁶)

Notice of Dr Packard's *Insects injurious to forest and shade trees*, being Bulletin no. 7 of the U. S. entomological commission

White grub—*Lachnosterna fusca* Frohl. (Country gentleman. Ap. 27, 1882. 47:333²²)

General account of the insect.

Spring canker worm, *Anisopteryx* [*Paleacrita*] *vernata*. (Country gentleman. May 18, 1882. 47:393¹³)

Its distribution from Maine to Texas, and the various remedies.

Mites in timothy fields. (Country gentleman. May 18, 1882. 47:395¹⁵)

Mite is probably *Trombidium bicolor* [*Bryobia pratensis*].

Leaf mining Anthomyiidae. (Canadian entomologist. May 1882. 14:96-97. Entomological society of Ontario. 13th annual report. 1882. 1883, p. 31)

Chortophila [*Phorbia*] *floccosa* Macq., and two new species are treated.

Grain aphid—*Siphonophora avenae* Fabr. [*Nectarophora granaria* Kirby]. (Country gentleman. June 22, 1882. 47:493²⁵)

General notice of attack by this species on wheat.

Apple tree case bearer. (Country gentleman. July 6, 1882. 47:535¹⁵)

Caterpillar of *Coleophora malivorella* Riley identified, and remedies given.

Spring canker worm—*Anisopteryx* [*Paleacrita*] *vernata* Peck. (Country gentleman. July 6, 1882. 47:533²⁴)

Injuries in New Canaan, Ct., and remedies indicated.

Rose bug. (Country gentleman. July 6, 1882. 47:534³²)

Gives several remedies for *Macrodactylus subspinosus*.

- 17 year locust. (Ontario county times. July 12, 1882. 28: 3)
General account of *Cicada septendecim* in the state of New York.
- New household pest—*Attagenus megatoma* Fabr. [*piceus* Oliv.]. (Country gentleman. July 20, 1882. 47: 567²⁴)
General account of this carpet beetle.
- Hessian fly in Ohio. (Country gentleman. July 20, 1882. 47: 567³⁶)
Attack by second brood, life history, remedies.
- Bark beetle. (Country gentleman. Aug. 3, 1882. 47: 605²⁸)
Identification of *Hymenorus obscurus* Say, with notice of habits.
- Stalk borer. (Country gentleman. Aug. 3, 1882. 47: 605³⁴)
Gortyna [*Hydroecia*] *nitela* Guen. injurious to potatoes and corn, remedies.
- Wire worms infesting potato vines. (Country gentleman. Aug. 10, 1882. 47: 625²²)
Brief notice of wire worms, *Elaterridae*, infesting potatoes.
- Horn tail borer—*Tremex columba* Linn. (Country gentleman. Aug. 10, 1882. 47: 625²⁶)
Notices injuries to maples by this species and *Glycobius* [*Plagionotus*] *speciosus*, and the parasites, *Rhyssa* [*Thalessa*] *lunator* and *R.* [*Thalessa*] *atrata*.
- Spotted horn bug. (Country gentleman. Aug. 27, 1882. 47: 645²¹)
General notice of *Dynastes tityus*.
- Mites infesting a poultry house. (Country gentlemen. Aug. 17, 1882. 47: 645²⁸)
Mites are probably a common species, remedies are given.
- New worm in apples. (Country gentleman. Sep. 21, 1882. 47: 745²⁵)
White worm in early apples may be *Sciara mali*.
- Black blister beetle—*Epicauta pennsylvanica* DeGeer. (Country gentleman. Sep. 21, 1882. 47: 745³²)
Beetle injurious to carrots and cabbages, remedies indicated.
- Hag moth caterpillar. (Country gentleman. Sep. 21, 1882. 47: 745³⁶)
Larvae of *Phobetron pithecium* Sm.-Abb. described and interesting facts given.
- New apple insect—*Amphidasys* [*Lycia*] *cognataria* Guen. (Country gentleman. Oct. 5, 1882. 47: 785²⁴)
Brief account as an apple tree pest.
- Destructive elm leaf beetle—*Galerucella xanthomelaena* Schrank [*luteola* Müll.] (Country gentleman. Oct. 12, 1882. 47: 805¹¹)
Identified from Bound Brook, N. J., and remedies given.
- Rose leaf insect. (Country gentleman. Mar. 1, 1883. 48: 169²⁵)
Caterpillar feeding on rose leaves is identified as *Penthina nimbata* Clem.

Of interest to flower growers — A new enemy found. (Troy daily times. Ap. 2, 1883)

Discovery of a caterpillar, probably *Plusia dyaus* Grote [*rogationis* Guen.], feeding upon heliotrope, geranium, wandering jew (*Tradescantia*), etc.

Bean weevil. (Country gentleman. Ap. 19, 1883. 48:317³²)

Identification and brief notice of *Bruchus fabae* Riley [*obtectus* Say].

Thousand legged worms in a nursery—*Julus caeruleocinctus* Wood. (Country gentleman. May 24, 1883. 48:421²³)

General account of this species, giving characteristics, habits and remedies.

Curious ichneumon cocoons. (Country gentlemen. June 14, 1883. 48:481²⁴)

Cocoons of *Apanteles congregatus* Say described; the habits and value of allied species.

On an egg parasite of the currant saw fly, *Nematus ventricosus* Klug. [*Pteronous ribesii* Scop.]. (Psyche. 1883. 4:48-51)

Account of *Trichogramma pretiosa* as a parasite of this saw fly.

Rearing lepidoptera. (Psyche. 1883. 4:53, 13 cm)

Notices work of Mr S. L. Elliot and his success in rearing lepidoptera.

Book notice. (Psyche. 1883. 4:53, 11 cm)

Notices the volume, *Insects injurious to fruits*, by Mr William Saunders as soon to be published.

Codling moth of the apple. (Country gentleman. June 28, 1883. 48:421²³)

Identification of *Carpocapsa pomonella* and remedies.

An interesting bug. (Country gentleman. June 28, 1883. 48:521²⁷)

Account of the beneficial habits of the 'wheel-bug,' *Prionotus* [*Prionodus*] *cristatus* Linn.

Maple tree scale insect—*Lecanium* [*Pulvinaria*] *innumerabilis* Rathvon. (Country gentleman. July 5, 1883. 48:541³¹)

General account of this species, giving life history, references to papers treating on it and remedies.

Black long sting—*Rhyssa* [*Thalessa*] *atrata* Fabr. (Country gentleman, July 12, 1883. 48:561²⁶)

Characters of the species and its method of oviposition.

Hairworm, Vanessa, Alaus, Gordius and Mermis. (Country gentleman. July 19, 1883. 48:581¹²)

Gordius, *Mermis*, *Vanessa* [*Euvanessa*] *antiopa* and *Alaus oculatus* are briefly treated.

Oak moth—*Anisota senatoria* Sm.-Abb. (Country gentleman. July 26, 1883. 48:601³³)

Brief notice of this species.

- Captures of *Feniseca tarquinius* Fabr. (Psyche. 1883. 4:75, 13 cm)
 Number of examples collected at Keene Valley, N. Y., and one at Center, N. Y.
- [Platygaster larva destroying galls of *Cecidomyia salicis-batatus*] (Psyche. 1883. 4:79—7 cm)
 Reference to Prof. D. S. Kellicott's observations on the above.
- [Collecting cut worms at evening with a light] (Psyche. 1883. 4:80, 10 cm)
 Notice of collections made about dusk in the evening.
- Grape pest—*Procris* [*Harrisina*] *americana*. (Country gentleman. Aug. 2, 1883. 48:62²⁶)
 Insect in Champaign co., Ohio, description, remedies.
- Potter wasp cells on grape leaves — *Eumenes fraternus* Say. (Country gentleman. Aug. 9, 1883. 48:64⁴⁴)
 Description of the cells and habits of the insect.
- Frenching of corn. (Country gentleman. Aug. 16, 1883. 48:66⁴²)
 Causes of frenching, a brief account of *Sphenophorus sculptilis*.
- Striped squash beetle. (Country gentleman. Aug. 23, 1883. 48:68²³)
 Brief account of *Diabrotica vittata* Fabr.
- Carpet bug—*Anthrenus scrophulariae*. (Country gentleman. Aug. 23, 1883. 48:68²⁷)
 Report of this larva injuring linen and silk goods doubted; remedies.
- Pine emperor moth. (Country gentleman. Sep. 27, 1883. 48:78²⁷)
 Larva of *Eacles* [*Basilona*] *imperialis* Drury is identified and habits given.
- Saw fly larvae on quince. (Country gentleman. Oct. 4, 1883. 48:80²³)
 Describes the larva of saw fly on quince leaves, and notices *Vanessa* [*Euranessa antiopa* and *Adalia bipunctata*].
- Bark louse on willow. (Country gentleman. Oct. 4, 1883. 48:80²⁶)
 Apple tree bark louse, *Mytilaspis pomorum*, recorded on Kilmarnock willow.
- Chinch bug in northern New York. (Argus [Albany]. Oct. 10, 1883. p. 3; Watertown [N. Y.] daily times. Oct. 12, 1883. [same article copied] Country gentleman. Oct. 18, 1883. 48:84²⁵ [same copied nearly entire])
 General account of *Blissus leucopterus* in northern New York, giving appearance, ravages and remedies.
- New enemy to the farm. (Argus [Albany]. Oct. 10, 1883. p. 4, col. 3, 30 cm)
 Recapitulation of the preceding paper slightly altered.
- Chinch bug in New York. (Science. Oct. 19, 1883. 2:540, 16 cm)
 Its detection in large numbers in St Lawrence co., N. Y.

Mole cricket. (Country gentleman. Oct. 25, 1883. 48:861²⁴)

Habits of *Gryllotalpa borealis* Burm. and remedies.

Directions for arresting the chinch bug invasion of northern New York.

(New York state museum of natural history: Department of entomology. Circular no. 1. October 1883. 3 p., fig. 1)

Brief account emphasizing the necessity for remedial measures.

1st annual report on the injurious and other insects of the state of New York. Made to the state legislature, pursuant to ch. 377 of the laws of 1881. Albany: Weed, Parsons and Company, printers. 1882. 22+381p., 84 fig. [issued in October, 1883]

Contents

PAGE	PAGE
Importance of entomologic study. 1	Valuable insecticides 25-55
Insect depredations 2-12	Remedies for insect depredations 56
Immense number of insects 12	Preventives of insect depredations 63
Necessity of a knowledge of insect habits 14	New principle of protection from insect attack 66
Progress in economic entomology 15-25	Classification 78
	Bibliography 80

Injurious Lepidopterous insects

<i>Thyridopteryx ephemeraeformis</i> , bag or basket worm 81	<i>Crambus vulgivagellus</i> , vagabond Crambus 127
<i>Tolyte laricis</i> , larch lappet 87	<i>Crambus exsiccatus</i> [<i>trisectus</i> Walk.], dried Crambus 149
<i>Nephelodes violans</i> [var. of <i>minians</i>], violet Nephelodes 99	<i>Anarsia lineatella</i> , peach twig moth 151
<i>Gortyna</i> [<i>Hydroecia</i>] <i>nitela</i> , stalk borer 110	<i>Bucculatrix pomifoliella</i> , apple leaf Bucculatrix 157
<i>Heliothis armiger</i> , corn worm 116	<i>Coleophora malivorella</i> , apple tree case bearer 163

Injurious Dipterous insects

On some species of Anthomyiidae. 168	<i>Hylemyia deceptiva</i> [<i>Phorbia fusciceps</i>], deceptive wheat fly 201
<i>Phorbia ceparum</i> , onion fly 172	<i>Anthomyia similis</i> , similar wheat fly 202
<i>Phorbia cilicrura</i> [<i>fusciceps</i>], locust egg Anthomyian 181	Notice of some Anthomyians mining beet leaves 203
<i>Anthomyia</i> [<i>Phorbia</i>] <i>brassicae</i> , cabbage fly 184	<i>Mallota posticata</i> 211
<i>Anthomyia radicum</i> , root fly 191	<i>Drosophila ampelophila</i> , pickled fruit fly 216
<i>Anthomyia raphani</i> , radish fly 194	<i>Meromyza americana</i> , wheat stem maggot 221
<i>Anthomyia zaeae</i> [<i>Phorbia fusciceps</i>], seed corn fly 199	

Injurious Coleopterous insects

	PAGE		PAGE
<i>Macrodactylus subspinosus</i> , rose beetle	227	<i>Phytonomus punctatus</i> , punctured clover leaf weevil.....	247
<i>Euphoria inda</i> , Indian Cetonia	232	<i>Sphenophorus sculptilis</i> , sculptured corn curculio	253
<i>Crioceris asparagi</i> , asparagus beetle	239		

Injurious Hemipterous insects

<i>Murgantia histrionica</i> , harlequin cabbage bug	264	<i>Enchenopa binotata</i> , two marked tree hopper	281
<i>Poecilocapsus lineatus</i> , four lined leaf bug	271		

Appendix

(A) Entomologic reports of Dr Asa Fitch	291	On some species of Nisoniades [Thanaos].....	333
Miscellaneous entomologic papers of Dr Fitch	297	Description of a new species of Eudamus [<i>Thorybes electra</i>]	338
Notice of the entomologic labors of Dr Fitch	322	On the life duration of the Heterocera (moths).....	339
(B) Insect depredators upon the apple tree	327	(D) Addenda	343
(C) Descriptions and notes of lepidoptera	333	General index.....	345
		Index to food plants	379

Ant lion. (Country gentleman. Nov. 1, 1883. 48: 981¹⁶)

Gives an interesting account of the habits of several species of ant lions.

New corn pest—*Megilla maculata*. (Country gentleman. Nov. 22, 1883. 48: 941¹⁵)

Injurious habits of this species exceptional in the *Coccinellidae*.

Apple maggot—*Trypeta pomonella*. (New York agricultural experiment station. Bulletin 75. Dec. 29, 1883, 110 cm)

General account of this species, giving injuries, life history, remedies, and mentions *Sciara mali*.

New sexual character in the pupae of some Lepidoptera. (Psyche. 1883. 4: 103-6—Issued Feb. 11, 1884.) Abstract in proceedings of the American association for the advancement of science, for the meeting held at Montreal, Canada, August 1882, 1883. pt 2, 31: 470-71.

On sexual characters among insects, specially of certain ones in the pupae of the *Cossidae* and *Aegeriadae*.

Horn tail—*Urocerus cressoni*. (Country gentleman. Jan. 3, 1884. 49: 9¹²)

Identified and habits briefly given.

Fuller's rose beetle — *Aramigus fulleri*. (Country gentleman. Jan. 17, 1884. 49:49²¹)

General account of this insect, giving injuries, distribution, life history and remedies.

Lunate long sting — *Thalessa lunator* Fabr. (Country gentleman, Ap. 17, 1884. 49:331³⁶)

Life history and habits of this species, with mention of its host, *Tremex columba*.

Insect attack on a Julus. (Canadian entomologist. April 1884. 16:80. 7 cm)

Of a possible attack by ichneumon flies on a Julus.

Insect injury to grape vines. (Country gentleman. May 8, 1884. 49:397¹¹)

General account of injury by *Oecanthus latipennis* to grape vines.

Squash borers. (Country gentleman. May 8, 1884. 49:397²⁴)

Injuries to squash vines referred to *Melittia cucurbitae* Harris [*satyriniformis* Hübn.].

Punctured clover leaf weevil. (Country gentleman. May 29, 1884. 49:457²¹; Ontario county times, extra. May 29, 1884)

General account of *Phytonomus punctatus* Fabr., giving description of the insect, and remedies.

New clover pest—its ravages in the southern portion of Canandaigua. (Ontario county times, extra. May 29, 1884, 30 cm. June 4, 1884. p. 3, col. 4-5, 85 cm)

Ravages of *Phytonomus punctatus*, and remedies for the pest.

Corn cut worm. (New York agricultural experiment station. Bulletin 86. Geneva. May 31, 1884)

Gives the methods of controlling cut worms.

White grub of the May beetle — *Lachnosterna fusca*. [Read before the New York state agricultural society at the annual meeting, Jan. 16, 1884.] (New York state agricultural society. 43d annual report. 1883. [June 5] 1884. p. 20-37, fig. 5)

General account of white grubs and the parent beetles.

Squash vine borer — 1. *Melittia cucurbitae* Harr. [*satyriniformis* Hübn.] (Country gentleman. June 5, 1884. 49:477²⁵)

Describes caterpillar and moth, with remarks upon its family.

Squash vine borer — 2. (Country gentleman, June 12, 1884. 49:497²¹)

Life history, habits and injuries discussed.

Squash vine borer — 3. (Country gentleman. June 19, 1884. 49:517¹¹)

Treats of various remedies and preventives.

- Bacon beetle — *Dermestes lardarius*. (Country gentleman. June 26, 1884. 49: 537²³)
Brief account of this species, giving description, habits and remedies.
- Maple tree scale insect. (Country gentleman. July 3, 1884. 49: 556⁴⁶–57¹⁷)
Identifying *Lecanium* [*Pulvinaria*] *innumerabilis* Rathv., and giving remedies.
- Spring canker worm—*Anisopteryx* [*Paleacrita*] *vernata* Peck. (Country gentleman. July 10, 1884. 49: 577²⁴)
Treats of the importance and means of arresting its spread.
- Buffalo gnat. (Country gentleman. July 10, 1884. 49: 577³³)
General account of the species [*Simulium invenustum*].
- Carpet bug. (Daily democrat [Amsterdam, N. Y.] July 21, 1884)
Gives description and habits of the insect, with remedies.
- Elm tree beetle. (New York weekly tribune. July 23, 1884)
Destroying the larvae and pupae at base of trees recommended.
- Carpet beetle—*Anthrenus scrophulariae* Linn. (Country gentleman. Aug. 14, 1884. 49: 676⁴³–77¹⁸)
Gives its habits, habitat, injuries, materials eaten, transformations, preventives and remedies.
- Insects mining beet leaves. (Country gentleman. Aug. 14, 1884. 49: 677²²)
Attack on beet leaves referred to Anthomyians.
- Peach root aphid. (Gardener's monthly and horticulturist (Phil.) September 1884. 26: 271–72, 29 cm)
Root aphid on seedling peach trees is believed to be *Myzus persicae* Sulz. [*Aphis prunicola* Kalt.] and remedies are given.
- New rose pest—*Homoptera lunata*. (Country gentleman. Sep. 1, 1884. 49: 737¹⁶)
Caterpillars of this species are recorded feeding on rose buds.
- Jumping seeds. (Country gentleman. Sep. 11, 1884. 49: 757¹⁵)
General notice of *Carpocapsa saltitans* and of other species.
- White grub—*Lachnosterna fusca*. (Country gentleman. Sep. 11, 1884. 49: 757²⁷)
Starvation remedy is recommended.
- Insect attack new to the state—*Isosoma tritici*, on wheat, in Geneva. (New York agricultural experiment station, Bulletin 100. Geneva, N. Y. Oct. 4, 1884)
General account of the insect and its treatment.

Stinging bug—*Melanolestes picipes* H.-S. (Country gentleman. Oct. 23, 1884. 49:877²⁴)

Melanolestes picipes H.-S., or 'black corsair,' *Conorhinus sanguisugus* LeC., *Melanolestes abdominalis* H.-S., *Reduvius*, [*Opsicoetus*] *personatus* Linn., and *Prionotus* [*Prionodus*] *cristatus* Linn. are mentioned.

Attack on the apple worm—A friend, not a foe. (Country gentleman. Oct. 30, 1884. 49:897²⁷)

Notice of *Chauliognathus marginatus* Fabr. feeding upon the apple worm—the larva of *Carpocapsa pomonella*. *Chauliognathus pennsylvanicus* and *Conotrachelus crataegi* mentioned.

Clover insects. (New York state agricultural society. Transactions, 1877-82. [October] 1884. 33:206-7)

Supplement to the paper on 'The insects of the clover plant,' in which are named 24 additional species—making a total of 70.

White grub. (New England homestead. Nov. 8, 1884. 18:383, col. 1-3)

Extended notice of white grubs, giving distribution, life history and remedies.

Report of the state entomologist to the regents of the University of the State of New York, for the year 1883. (New York state museum of natural history. 37th annual report by the regents of the University of the State of New York. [November] 1884. p. 45-60)

The following insects are noticed: *Grapta* [*Polygonia*] *faunus*, *G.* [*Eugonia*] *j-album*, *Feniseca tarquinius*, *Agrilus torpidus* [*anxius*], *Agrotis* [*Noctua*] *clandestina*, *Simulium molestum* [*venustum* Say], *Orgyia* [*Notolophus*] *leucostigma*, and *Blissus leucopterus*.

Apple leaf Bucculatrix. (Husbandman [Elmira, N. Y.] Dec. 3, 1884. No. 537, 11:1)

General account of *Bucculatrix pomifoliella*.

On some Rio Grande Lepidoptera. (Papilio. 1884. 4:135-47) [Published February 1885]

Gives an annotated list of collections made by Messrs Sennett and Webster in 1877 and 1878, the following new species being described: *Kricogonia lanice*, *Apatura cocles*, *Sphinx insolita* and *Ecpantheria sennettii* Lintn. [*garzoni* Oberthur].

Scale insect attack on ivy. (Country gentleman. Feb. 26, 1885. 50:169²²)

Identifies *Aspidiotus nerii* Bouché on ivy and gives remedies.

Owl beetle — *Alaus oculatus* [subsequently proved to be *A. myops*] (Country gentleman. Ap. 9, 1885. 50:307⁴³)

Brief notice of the insect.

Remedies for the white grub. (New England homestead. May 16, 1885. 19:205, col. 2)

Starvation, crops of buckwheat, mustard, are the remedies given.

Cut worms. [Read before the New York state agricultural society, at the annual meeting, Jan. 21, 1885.] (New York state agricultural society. 44th annual report. 1884. [May] 1885. p. 56-80, fig. 1-20) (Separate, with cover and half title [June 1885] 25 p., 20 fig.)

Extended account of cut worms and their treatment.

Potato bug parasite. (New England homestead. June 6, 1885. 19:237, col. 2)

Mite infesting and killing Colorado potato beetles is identified as *Uropoda americana* Riley.

Visitation of locusts. (Argus [Albany], June 7, 1885)

On the appearance of the 17 year locusts in New York.

Pear blight beetle. (Country gentleman. June 18, 1885. 50:517²³)

General notice of *Xyleborus pyri* [dispar].

Canker worm. (Country gentleman. June 18, 1885. 50:519²⁶)

Notice of *Anisopteryx* [*Paleacrita*] *vernata* Peck, with remedies.

Insect eggs on strawberries. (Country gentleman. June 25, 1885. 50:537³¹)

Eggs of hemipteron can not be identified, *Corimelaena pulicaria* mentioned.

Plant lice, elm beetles, etc. (New England homestead. July 4, 1885. 19:269, col. 1-2)

Schizoneura americana and *Galeruca xanthomelaena* [*Galerucella luteola*] noticed.

Apple tree bark louse. (New England homestead. July 4, 1885. 19:269, col. 4-5)

Mytilaspis pomorum Bouché identified and remedies given.

Cut worm and onion maggot. (Country gentleman. July 9, 1885. 50:574⁴⁵-75¹¹)

Remedies for cut worms—*Anthomyia* [*Phorbia*] *brassicae* and *Phorbia ceparum* are given.

Peach and cherry borers. (Country gentleman. July 9, 1885. 50:575¹¹)

Brief notice of *Phloeotribus liminaris* Harr. and *Scolytus rugulosus* Ratz.

Fig eater—*Allorhina nitida*. (Country gentleman. July 9, 1885. 50:575¹⁶)

Its habits are described briefly.

Round headed apple tree borer—*Saperda candida* Fabr. (Country gentleman. July 16, 1885. 50:590⁴⁴-91¹⁴)

Borers in hawthorn are probably this insect—several remedies are given.

Entomological. [Answers to inquiries] (Country gentleman. July 16, 1885. 50:592²⁵)

Remedies are given for the potato beetle and rose bug.

Cause of black knot. (Country gentleman. July 23, 1885. 50:607¹⁸)

It is produced by a fungus, *Plowrightia morbosa*.

Cucumber moth. (Country gentleman. July 23, 1885. 50:607²⁶)

Notices *Phakellura* [*Margaronia*] *nitidalis* Cram., *P.* [*Margaronia*] *hyalinata* and *Melittia curcubita* Harr. [*satyriniiformis* Hübn.].

Apple insects and the Rhinoceros beetle. (Country gentleman. July 30, 1885. 50:623²⁵)

Orgyia [*Notolophus*] *leucostigma* [subsequently emerged and proved to be *Acronycta* sp.] and *Dynastes tityus* noticed.

Another potato pest. (New England homestead. Aug. 8, 1885. 19:309, col. 3)

Remedies are given for *Macrobasis unicolor* Kirby.

Roestelia aurantiaca. (Country gentleman. Aug. 13, 1885. 50:661³⁸)

Brief notice of the above fungus [aecidial form of *Gymnosporangium clavipes*] occurring on quince.

False chinch bug. (Country gentleman. Aug. 13, 1885. 50:661⁴³)

Food plants and remedies for *Nysius angustatus* Uhler.

Bag worm—*Thyridopteryx ephemeraeformis*. (Country gentleman. Oct. 1, 1885. 50:801³¹)

Gives the remedies for this insect.

Red spider—*Tetranychus telarius* Linn. (Country gentleman. Oct. 8, 1885. 50:821³⁸)

Mite identified and remedies given.

13-year Cicada. (Argus [Albany]. Oct. 11, 1884. p. 4, 32 cm)

Notices specially Riley's experiment on the 13 and 17 year forms.

Elm leaf beetle. (Country gentleman. Oct. 15, 1885. 50:841³⁵)

Galeruca xanthomelaena [*Galerucella luteola*] identified and remedy given.

Clubbed tortoise beetle. (Country gentleman. Oct. 15, 1885. 50:841⁴³)

Appearance, habits and food plants of *Coptocycla clavata* Fabr.

Leaf mining insect. (Home Farm [Augusta, Me.] Oct. 15, 1885. p. 1)

Brief notice of *Chortophila* [*Pegomyia*] *betarum* Lintn.

Death watch—*Clothilla pulsatoria*. (Country gentleman. Oct. 22, 1885. 50:861³⁵)

Habits and occurrence of this species.

Eggs of a katydid. (Country gentleman. Oct. 29, 1885. 50:881⁴²)

Notices *Microcentrum retinervis* and *Platyphyllum concavum* [*Cyrtophyllus concavus*].

New insect foe to the cut worm. (New England homestead. Oct. 31, 1885. 19:405, col. 3-4)

Brief account of a cut worm parasite, a species of *Gonia*.

Saw fly on fruit trees. (Country gentleman. Nov. 12, 1885. 50+921³⁴)

Notices briefly an attack in Scotland by a saw fly, probably *Eriocampa adumbrata*, and gives remedies.

2d report on the injurious and other insects of the state of New York.

Made to the legislature, pursuant to ch. 377 of the laws of 1881.

Albany: Weed, Parsons & Co., legislative printers. 1885. 14+265p., 68 fig. [Issued Feb. 20, 1886]

Contents

	PAGE		PAGE
Introduction	1	Remedies and preventives.....	24
Notes of various insect attacks....	5	Miscellaneous notes.....	39

Injurious Lepidopterous insects

<i>Melittia cucurbitae</i> [satyriniformis], squash vine borer.....	57	<i>Plusia dyaus</i> ? [rogationis Guen.]..	94
<i>Orgyia</i> [Notolophus] <i>leucostigma</i> , white marked tussock moth	68	<i>Amphidasys</i> [Lycia] <i>cognataria</i> , currant Amphidasys	97
<i>Plusia brassicae</i> , cabbage Plusia ..	89	<i>Sitotroga cerealella</i> , Angoumois moth	102

Dipterous insects

<i>Bibio albipennis</i> , white winged		<i>Microdon globosus</i>	116
<i>Bibio</i>	110	<i>Trypeta pomonella</i> , apple maggot .	117

Injurious Coleopterous insects

<i>Amphicerus bicaudatus</i> , apple twig borer	125	<i>Tribolium ferrugineum</i>	136
<i>Lema trilineata</i> , three lined leaf beetle	132	<i>Brachytarsus variegatus</i>	139
		<i>Aramigus fulleri</i> , Fuller's rose beetle	142

Injurious Hemipterous insects

<i>Cosmopepla carnifex</i>	144	<i>Cicada septendecim</i> , 17 year locust .	167
<i>Blissus leucopterus</i> , chinch bug....	148	<i>Chermes pinicorticis</i> , pine bark	
<i>Largus succinctus</i> , margined Largus	164	<i>Chermes</i>	180

Orthopterous and Neuropterous insects

<i>Chimarocephala</i> [Chortophaga] <i>viridifasciata</i> , green striped locust .	187	<i>Achorutes</i> [Schoturus] <i>nivicola</i> , snow flea	203
<i>Atropos divinatoria</i>	198	<i>Lipura fimetaria</i> [Aphorura armata]	208

Appendix

	PAGE		PAGE
(A) Entomological contributions. 213		<i>Perla nivicola</i> [<i>Capnia pygmaea</i>],	
New sexual character in the		small 'snow fly'	239
pupae of some Lepidoptera... 213		<i>Nemoura nivalis</i> , large 'snow	
On an egg parasite of the cur-		fly;' the 'shad fly'	240
rant saw fly	217	<i>Culex hyemalis</i> [<i>Anopheles puncti-</i>	
(B) Miscellaneous publications of		<i>pennis</i>], winter 'mosquito'..	241
the entomologist..... 223		<i>Chironomus nivoriundus</i> , snow	
(C) Winter insects of eastern New		born midge.....	242
York	235	<i>Trichocera brumalis</i> , midwinter	
<i>Boreus nivoriundus</i> , snow born		<i>Trichocera</i>	243
<i>Boreus</i>	237	<i>Podura</i> [<i>Schoturus</i>] <i>nivicola</i> ,	
<i>Boreus brumalis</i> , midwinter Bor-		'snow flea'	244
eus	238	General index	245
		Plant index	263

Some injurious insects of Massachusetts. (Massachusetts state board of agriculture. 33d annual report. 1886. Also, separate, with title page and cover [Mar. 12] 1886, 34 p.) [Read before the Massachusetts state board of agriculture, at its meeting at Framingham, Dec. 1, 1885]

Treats of canker worm, cut worms, *Sphinx quinquemaculata* [*Phlegethontius celeus*], *S.* [*Phlegethontius*] *carolina*, *Trypeta pomonella*, *Crioceris asparagi*, Rose leaf 'Thrips,' *Tettigonia vitis* [var. of *Typhlocyba comes* Say], *Tettigonia* [*Typhlocyba*] *rosae*.

Spring canker worm—*Anisopteryx* [*Paleacrita*] *vernata* Peck. (Country gentleman. Ap. 1, 1886. 51: 249²¹)

Its ravages in Dutchess co., remedies.

Cause of gapes. (Country gentleman. Ap. 8, 1886. 51: 269¹³)

General history of the gapes parasite, *Syngamus trachealis*.

Birch seed insect. (Country gentleman. Ap. 15, 1886. 51: 287²³)

Describes larva of birch seed insect [*Cecidomyia betulae*.]

Cause and treatment of gapes. (Country gentleman. Ap. 15, 1886. 51: 289²⁵)

Gives life history of *Syngamus trachealis* and remedies.

Aphis mali—the apple plant louse in Ontario orchards. (Ontario county times. May 12, 1886. Copied in Sentinel [Trumansburg, N. Y.] May 19, 1886; Watkins express [N. Y.] May 20, 1886; Palmyra courier [N. Y.] May 28, 1886)

Identifies and gives remedies for this plant louse.

- Curculio demonstration. (Country gentleman. May 13, 1886. 51: 366⁴⁸–67¹²)
 Note on *Pachylobius picivorus* Germ.
- Orange insects. (Country gentleman. May 13, 1886. 51: 370³²)
 Review of Mr Hubbard's report on this subject.
- Apple tree aphid infesting our orchards. (New England homestead. May 15, 1886. 20: 189, col. 3)
 Brief account of *Aphis mali*.
- Canker worm and codling moth described. (New England homestead. May 15, 1886. 20: 192, col. 4)
 Notice of canker worm and codling moth.
- Insects and other pests. (New England homestead. May 22, 1886. 20: 189, col. 5)
Nematus ventricosus [*Pteronus ribesii*] and *Bembecia marginata* noticed.
- Horizontal borings in tree trunks. (Country gentleman. May 27, 1886. 51: 409¹⁵)
 Injury is referred to the work of the yellow bellied woodpecker.
- Elm leaf beetle. (Country gentleman. May 27, 1886. 51: 409²⁵)
Galerucella xanthomelaena [*luteola*] identified.
- Plea for entomological study. (Glens Falls [N. Y.] republican. June 1, 1886)
 Extracts from an address before the Agassiz association of Glens Falls.
- Apple tree aphid. (Country gentleman. June 3, 1886. 51: 429¹⁶)
 Mentions *Aphis mali* and *A. [Myzus] ribis*.
- Asparagus beetle. (Country gentleman. June 3, 1886. 51: 429²⁴)
 Brief notice of *Crioceris asparagi*.
- New strawberry insect. (New England homestead. June 5, 1886. 20: 216, col. 5)
Bembidium quadrimaculatum is recorded as injurious to strawberries.
- Grapevine scale insect. (New England homestead. June 12, 1886. 20: 221, col. 6)
 Brief notice of *Pulvinaria vitis* [*innumerabilis*].
- Apple tree bark louse. (Country gentleman. June 17, 1886. 51: 469⁴²)
 Identifies and gives remedies for *Mytilaspis pomicorticis* [*pomorum*].
- Forest tent caterpillar. (New England homestead. June 19, 1886. 20: 229, col. 4–5)
 Brief account of *Clisiocampa sylvatica* [*disstria*].

Squash bug. (New England homestead. June 19, 1886. 20:229, col. 5)

Records injuries to melon vines by *Anasa tristis*.

New attack on wheat. (Country gentleman. June 24, 1886. 51:487²⁵)

Describes the attack of an unknown saw fly on wheat.

Unknown grass insect. (Country gentleman. July 1, 1886. 51:503¹⁶)

Gives characters of an unknown attack on grass.

Gortyna nitela destroying tomato plants. (Orange county farmer. July 1, 1886. p. 4)

Injuries to tomato plants by *Gortyna* [*Hydroecia*] *nitela* Guen.

Hop vine insects — Origin of honey dew. (Waterville [N. Y.] times. July 16, 1886. p. 2)

General account of *Phorodon humuli*.

Honey dew on the hop vine. (Country gentleman. July 22, 1886. 51:553⁴⁴)

Gives origin of honey dew and identifies the larva of *Adalia bipunctata*.

New attack on the potato. (New England homestead. July 24, 1886. 20:273, col. 1)

Attack by aphids is referred with doubt to *Megoura solani*.

Potato stalk weevil—*Trichobaris trinotata* Say. (American rural home. July 24, 1886. No. 30, 16:8, col. 4-5, 22 cm)

Brief notice of this species.

Plant louse on the potato. (Country gentleman. July 29, 1886. 51:569¹⁸)

Referred with doubt to *Megoura solani* and remedies given.

[Notice of Dr Walker's communication on Experiments with gapes] (Country gentleman. July 29, 1886. 51:576¹⁴)

Review of paper on identity of parasites in earthworms with *Syngamus*.

Stalk borer. (New England homestead. July 31, 1886. 20:277 col. 1)

Notices an attack on corn by *Gortyna* [*Hydroecia*] *nitela*.

Maple tree pruner—*Elaphidion* sp. (Country gentleman. Sep. 9, 1886. 51:677²⁵)

Gives features of attack by *Elaphidion parallelum* Newm. [*villosum* Fabr.] on maples.

[Myriads of minute insects in the air] (Albany evening journal. Sep. 9, 1886. p. 4)

Insects in the air are identified as *Aphis* [*Nectarophora*] *granaria*.

Apple tree pest and parasite. (Country gentleman. Sep. 16, 1886. 51:695¹³)

Oedemasia [*Schizura*] *concinna* and *Limneria fugitiva* noticed.

Carrot and parsnip aphids. (Country gentleman. Sep. 16, 1886. 51:695¹⁸)

Records injuries to carrots and parsnips by aphids.

Ham infesting mite. (Country gentleman. Sep. 16, 1886. 51:695²⁵)

Identifies the cheese mite, *Tyroglyphus siro*, on ham.

Cockscomb elm gall. (Country gentleman. Sep. 23, 1886. 51:713³⁴)

Galls of *Glyphina* [*Colopha*] *ulmicola* described, and synonymy and bibliography given.

U. S. entomological report. (Country gentleman. Sep. 23, 1886. 51:715²⁵)

Short notice of Riley's report for 1885.

New and destructive borer to be conquered. (New England homestead. Sep. 25, 1886. 20:341, col. 4)

Identifies *Scolytus rugulosus* and *Phloeotribus liminaris*.

Honey dew on maple leaves. (New England homestead. Sep. 25, 1886. 20:344, col. 2)

Brief notice of honey dew, its source and value to bees.

Gapes in fowls. (Country gentleman. Sep. 30, 1886. 51:731⁴¹)

Comments on Dr Walker's paper on gapes.

Muskmelon worm. (Country gentleman. Sep. 30, 1886. 51:733³⁵)

Account of *Phakellura* [*Margaronia*] *nitidalis* and mention of *Chauliognathus marginatus*.

Silk culture. (Country gentleman. Sep. 30, 1886. 51:735²³)

Brief review of *The mulberry silk worm*, by Riley.

A queer bug and other insects. (Country gentleman. Oct. 7, 1886. 51:753⁴¹)

Notices *Leptoglossus oppositus*, *L. phyllopus* and *Metapodius femoratus*.

Severe attack on the potato. (Country gentleman. Oct. 14, 1886. 51:773³⁵)

Records an attack of *Julus caeruleocinctus* and a species of *Polydesmus* on potatoes.

Beech tree blight. (Husbandman [Elmira, N. Y.] Oct. 27, 1886. No. 636. 13:1, col. 1, 2, 38 cm)

Brief account of *Pemphigus imbricator* Fitch.

Grain aphis in Maryland. (Country gentleman. Nov. 25, 1886. 51:893²⁵)

Refers an attack on rye to *Siphonophora avenae* [*Nectarophora granaria*].

Annual address of the president of the entomological club of the A. A. A. S., at the Buffalo meeting, Aug. 17, 1886. (*Entomologica americana*. 1886. 2: 143-60)

Gives the evidences of progress in entomology during the past year.

Sweet potato pest. (Albany express. Dec. 8, 1886)

Notice of the sweet potato weevil, *Cylas formicarius* Fabr.

Praying Mantis and its eggs. (Country gentleman. Jan. 6, 1887. 52: 9³², fig.)

Gives the life history and beneficial habits of *Mantis* [*Stagmomantis carolina*].

Bug injurious to shade trees. (Country gentleman. Jan. 27, 1887. 52: 69²⁷)

Brief notice of *Leptocoris trivittatus* Say in Kansas.

Fuller's rose beetle — *Aramigus fulleri* Horn. (Country gentleman. Feb. 3, 1887. 52: 89¹²)

Describes its injuries in greenhouses.

Harmlessness of the lady bird, *Adalia bipunctata*. (The Owl [organ of Agassiz association, Glens Falls, N. Y.] February 1887. 2: 15)

Mention of its abundance and beneficial habits.

Aphididae, or plant lice. (Western New York horticultural society. Proceedings. 32d annual meeting, Jan 26 and 27, 1887. p. 85-97) [Issued in March 1887]

General account of plant lice, giving systematic position, features, distribution, injuries, propagation, our imperfect knowledge and recent discoveries.

Wood eating insect. (Country gentleman. Mar. 31, 1887. 52: 257¹³)

Records the presence of *Xylotrechus colonus* Fabr. in a house.

Do spiders protect fruit trees from aphids? (Green's fruit grower. April 1887. p 17)

No record is known of spiders devouring aphids under natural conditions.

Currant worm remedy. (Popular gardening. April 1887. 2: 120-21)

Recommends hellebore and mentions the parasite, *Trichogramma pretiosa*.

Life history of *Hemileuca maia* Drury. (Swiss cross. April 1887. 1: 135-39, fig. 1-3)

General account of the life history of this species.

How to prevent the cabbage maggot. (New England homestead. Ap. 9, 1887. 21: 136, col. 5)

Gives a number of remedies for this species.

Apple tree bark louse. (Country gentleman. Ap. 21, 1887. 52: 321¹⁵)

Gives life history and remedies for *Mytilaspis pomicorticis* [pomorum].

Borers in timber. (Country gentleman. Ap. 28, 1887. 52: 341³¹)

A few general recommendations for the protection of timber from borers.

Honey dew eaten by bees. (Country gentleman. Ap. 28, 1887. 52: 341³⁶)

On the value of honey dew as a food for bees.

17 year locust — *Cicada septendecim*. (Owl [Glens Falls, N. Y.] May 1887. 2: 17-19, fig. 1-5)

General account of *Cicada septendecim*, reference is made to the 13 year form and to *C. tibicen*.

[Root aphid of the hop vine.] (Waterville [N. Y.] times. May 6, 1887. p. 2)

Records the attack by an unknown root aphid on the roots of hop vines.

Lady birds, leaf and carpet beetles. (Country gentleman. May 12, 1887. 52: 381¹⁵, fig. 1-6)

Gives the characters of the lady birds, leaf beetles (*Chrysomelidae*) and the carpet beetle.

Little winged pest. (Argus [Albany]. May 16, 1887. p. 2)

Abstract of a paper on the mosquito [See 12th report, p. 319-35].

Another apple tree pest. (Country gentleman. May 19, 1887. 52: 398⁴⁴)

Records serious injuries to apple buds by *Crepidodera rufipes* Linn.

New(?) aphid on hop roots. (Country gentleman. May 19, 1887. 52: 401³¹)

Importance of knowing the life history of *Phorodon humuli*.

Currant worm parasite. (Express [Albany]. May 23, 1887. 41: 2)

Mentions the attack of *Trichogramma pretiosa* on the currant worm.

Leather beetle. (Boots and shoes weekly. May 25, 1887. 11: 473)

Insect burrowing in leather is probably *Dermestes vulpinus*, *Sitodrepa panicea* mentioned.

Saw fly on apple trees. (Country gentleman. May 26, 1887. 52: 421³¹)

Habits of *Dolerus sericeus* Say and *D. arvensis* Say, food plants of latter.

Elm leaf beetle going northward. (Country gentleman. May 26, 1887. 52: 421³⁷)

Galerucella xanthomelaena [luteola] received from Poughkeepsie.

New cotton pest. (Country gentleman. June 2, 1887. 52: 441⁴⁵)

Injuries to cotton by *Systema blanda* var. *bitueniata* [taeniata] recorded.

Thrips in strawberry blossoms. (Country gentleman. June 9, 1887. 52: 459¹²)

General account of injuries by the *Thripidae*.

Leather beetle again. (Boots and shoes weekly. June 15, 1887. 11:608)

Injuries by *Sitodrepa panicea* to shoes, with remedies.

Apple pest. (Oswego daily times. June 18, 1887. p. 4)

Records serious injuries by the rose bug, *Macroductylus subspinosus* to apple trees, and gives several remedies.

Cockscomb elm gall. (Country gentleman. June 23, 1887. 52:491²³)

Brief notice of *Glyphina* [*Colopha*] *ulmicola*.

Ox warble fly. (Country gentleman. June 23, 1887. 52:493¹¹)

General account of *Hypoderma bovis* [an erroneous reference of *H. lineata*] giving its life history and remedies.

Grape vine leaf hopper. (Country gentleman. June 23, 1887. 52:493⁴¹)

Gives a brief account of *Tettigonia vitis* [*Typhlocyba comes* var.]

Rose bug. (Country gentleman. June 30, 1887. 52:511¹³)

Treats of various remedies for *Macroductylus subspinosus*.

Hop louse. (Country gentleman. June 30, 1887. 52:511²⁴)

Gives remedies used in England against *Phorodon humili*.

Report of the state entomologist to the regents of the University of the State of New York, for the year 1885. (State museum of natural history. 39th annual report. 1885. p. 77-125) [Published, July 6, 1887]

Contents

	PAGE		PAGE
Introduction.....	81	Oviposition of <i>Saperda candida</i>	
Publications by the entomologist.	83	Fabr.....	105
Contributions to the department..	89	Clover leaf weevil destroyed by	
Collections of the entomologist...	91	a fungus.....	106
Insect attacks and miscellaneous		<i>Xyleborus pyri</i> Peck [<i>dispar</i>	
observations	94	Fabr.] pear blight beetle.....	107
Eggs of a cutworm on an apple		Attack on young pears by a	
tree	94	plant bug.....	110
<i>Anisopteryx</i> [<i>Paleacrita</i>] <i>vernata</i>		<i>Poecillocapsus lixatus</i> Fabr.....	110
Peck, canker worm.....	96	Experiment with the 13 year	
Apple leaf <i>Bucculatrix</i>	97	Cicada	111
<i>Ephestia kuhniella</i> as a pest in		Scale insect attack on ivy	113
mills	99	Cheese mite infesting smoked	
<i>Cecidomyia leguminicola</i> , clover		meats.....	114
seed midge	100	Parasitic mite attacking the	
<i>Sciara</i> sp. ? occurring on wheat.	101	Colorado potato beetle	116
<i>Helophilus similis</i> Macq.....	102	Another parasitic mite infesting	
<i>Anthomyia</i> [<i>Phorbia</i>] <i>brassicæ</i>		a beetle	118
Bouché, cabbage fly.....	103	Mite attack on garden plants... 118	
<i>Cecidomyia destructor</i> Say, hes-		Black knot of the plum tree and	
sian fly	103	its guests	120
Lady bug attack on scale insects	104		

Contents — concluded

	PAGE		PAGE
Notes upon various insects.....	122	<i>Macroductylus subspinosus</i> Fabr..	123
<i>Nisoniades</i> [<i>Thanaos</i>] <i>persius</i>		<i>Chrysochus auratus</i> Fabr.....	124
Scudder.....	122	<i>Trirhabda canadensis</i> Kirby	124
<i>Sphinx canadensis</i> Boisd.....	122	<i>Hylesinus opaculus</i> LeConte.....	124
<i>Melittia cucurbitae</i> Harr. [<i>satyr-</i>		<i>Phloeotribus liminaris</i> Harris ..	124
<i>informis</i> Hübn.].....	122	<i>Oecanthus niveus</i> Harris.....	124
<i>Tinea pellionella</i> Linn.....	122	<i>Ephemera natata</i> Walk. [<i>simu-</i>	
<i>Mallota</i> sp.....	123	<i>lans</i> Walk.].....	124
<i>Anthrenus scrophulariae</i> Linn....	123	Insect index.....	127
<i>Thanasimus dubius</i> Fabr.....	123		

Meal worm in salt. (Country gentleman. July 7, 1887. 52: 530³⁸)
Larvae in a sack of salt are identified as those of *Tenebrio molitor* Linn.

Four lined leaf bug on the currant. (Country gentleman. July 14, 1887. 52: 547²⁷)
Gives remedies for *Poecilocapsus lineatus*.

Elm leaf beetle. (Country gentleman. July 21, 1887. 52: 565³¹)
Brief notice of *Galeruca xanthomelaena* [*Galerucella luteola*].

The Curculio on the apple. (Country gentleman. July 21, 1887. 52: 565³⁸)
Blackened pits in apples are identified as probably the work of *Conotrachelus nenuphar*.

An ichneumonized caterpillar. (Country gentleman. Sep. 1, 1887. 52: 673³⁸)
Identifies the cocoons of *Apanteles congregatus* on the larva of *Darapsa* [*Ampelophaga*] *myron*.

Milkweed beetle with bad habits. (Country gentleman. Sep. 1, 1887. 52: 673⁴²)
Records an attack by *Chelymorpha argus* on barley, corn and cabbage.

Blister beetle attack. (Country gentleman. Sep. 1, 1887. 52: 674²²)
Identifies *Epicauta cinerea* on *Clematis flammula*.

Harvest fly. (Country gentleman. Sep. 1, 1887. 52: 674³³)
Cicada tibicen is identified and briefly noticed.

Mites on arbor vitae. (Country gentleman. Sep. 1, 1887. 52: 674³⁴)
Gives remedies for mites [*Tetranychus telarius*] on arbor vitae.

Elm leaf spraying. (Country gentleman. Sep. 8, 1887. 52: 694²⁸)
Apparatus for spraying elms is described.

Pests of the pomologist. (Boston herald. Sep. 16, 1887. p. 3)

Abstract of an address delivered before the American pomological society.

Queer foe to the caterpillar. (New England homestead. Oct. 1, 1887. p. 354, col. 3)

Cocoons of *Apanteles congregatus* on the larva of *Darapsa* [*Ampelophaga*] *myron* are identified.

Value of crustaceans as food for fishes. (American angler. Oct. 8, 1887. p. 235)

Treats of the value of Crustacea, May flies, Phryganid larvae and other aquatic forms as food for fishes.

Two marked tree hopper. (Country gentleman. Oct. 13, 1887. 52:783²⁷)

Identifies a variety of *Enchenopa binotata* on *Juglans rupestris*.

Mites on arbor vitae. (Country gentleman. Oct. 20, 1887. 52:800²⁴)

Tetranychus telarius is the mite on arbor vitae.

Asparagus and pear blight beetles. (Country gentleman. Oct. 27, 1887. 52:817³²)

Gives remedies for *Crioceris asparagi* and *Xyleborus pyri* [*dispar*].

White grub attack on wheat. (Country gentleman. Oct. 27, 1887. 52:817⁴³)

Describes a species of white grub attacking wheat, apparently not that of *Lachnosterna fusca*.

Bag worm. (Country gentleman. Nov. 3, 1887. 52:837²⁶)

General account of *Thyridopteryx ephemeraeformis*, giving habits, life history and remedies.

Insects and yellows in the peach. (Country gentleman. Nov. 3, 1887. 52:837, col. 4, 22 cm)

Phloeotribus liminaria not the cause of yellows.

Grape insects in manure. (American garden. December 1887. 8:396)

Larvae living in manure, as those of *Ligyris relictus*, do not feed on living plants.

Report of the state entomologist to the regents of the University of the State of New York, for the year 1886. (New York state museum of natural history. 40th report 1887. p. 79-154. Also, separate, with cover and title page: same paging) [Published Jan. 20, 1888. Designated as '3d report of the state entomologist']

Contents

	PAGE		PAGE
Introductory.....	83	Melon vines attacked by the	
New attack on wheat by a saw		squash bug, <i>Anasa tristis</i> De-	
fly larva	87	Geer	110
Red humped apple tree caterpillar		Grain aphid— <i>Siphonophora avenae</i>	
and parasite— <i>Oedemasia</i> [<i>Schi-</i>		Fabr. [<i>Nectarophora granaria</i>	
<i>zura</i>] <i>concinna</i> Sm.-Abb. and		Kirby]	112
<i>Limneria fugitiva</i> Say.....	90	Hop vine aphid— <i>Phorodon humuli</i>	
The forest tent caterpillar— <i>Clasio-</i>		Schränk	115
<i>ampa sylvatica</i> Harr. [<i>disstria</i>		Apple tree aphid— <i>Aphis mali</i> Linn.	118
Hübner.]	91	Potato plants attacked by aphids.	121
The spring canker worm— <i>Anisop-</i>		Aphis attack on carrots and par-	
<i>teryx</i> [<i>Paleacrita</i>] <i>vernata</i> Peck..	93	snips	123
Unknown grass pest.....	96	Beech tree blight— <i>Pemphigus im-</i>	
New strawberry insect— <i>Bembidium</i>		<i>bricator</i> Fitch.....	123
<i>quadrimaculatum</i> Linn.	98	Cockscorn elm gall of <i>Glyphina</i>	
Meal insect— <i>Laemophloeus alter-</i>		[<i>Colopha</i>] <i>ulmicola</i> Fitch.....	126
<i>nans</i> Er.	100	An unrecognized insect attack....	128
Grass burrowing insect— <i>Cebrio bi-</i>		Grass infesting mite — <i>Trombi-</i>	
<i>color</i> Fabr.	100	<i>dium</i> ? <i>bicolor</i> Herm. [<i>Bryobia</i>	
Dung beetle— <i>Aphodius inquinatus</i>		<i>pratensis</i>]	128
Herbst	102	Mite infesting smoked meats—	
Sugar maple borer — <i>Glycobius</i>		<i>Tyroglyphus siro</i> Linn.	130
[<i>Plagionotus</i>] <i>speciosus</i> Say.....	103	Severe attack on potatoes by	
Potato stalk weevil— <i>Trichobaris</i>		Myriapoda, etc.....	131
<i>trinotata</i> Say	106	Notes on various insects.....	135
'An ugly bee slayer'— <i>Phymata</i>		Contributions to the department	
<i>erosa</i> Her.-Sch. [<i>wolffi</i>]	107	during the year.....	140
		List of publications of the entom-	
		ologist during the year.....	142

Some pests of the pomologist. [From the American pomological society's report for 1887. Read before the A. P. S. at its Boston meeting, Sep. 1887] (Separates, quarto, with cover and title page, 13p.) [Published Mar. 1, 1888]

The paper presents the following headings: Progress in pomology; Evils attending progress in pomology; Need of scientific study; Demands of science on the pomologist; Immense fruit production—no overproduction; Large areas devoted to fruit crops; Increase in plant diseases; Increase of insect ravages; Food habits of insects; Change of food plants; Introduction from abroad; Spread of scale insects; Number of insect pests; An unknown currant insect; How insect ravages are to be met; Insecticides; Publications relating to fruit insects; Conclusion.

[Published, also, in the 4th report on the insects of New York, 1888. p. 183-92]

Remedies for scale insects. (Country gentleman. Mar. 1, 1888. 53: 169²⁵)

Gives the remedies for *Chionaspis furfurus* and notices *Chilocorus bivulnerus*.

[Injurious fruit insects of the vicinity of New York] (New York farmers. Proceedings. 1886-87. p. 52-59) [Published in March 1888]

The following insects are noticed: Apple maggot, *Trypeta pomonella*; apple worm of the codling moth; apple tree aphid; bark borers, *Xyleborus pyri* [*dispar*], *Scolytus rugulosus*, *S. obesus* [*Xyleborus dispar*]; plum curculio; peach tree borer; eight spotted *Alypia* on grape vines; currant worm; cabbage butterfly, *Pieris rapae*; and Colorado potato beetle.

Sulfur for the elm beetle. (Country gentleman. Mar. 15, 1888. 53: 209²⁶)

Futility of sulfur as a remedy for *Galerucella luteola*.

Pea weevil. (Country gentleman. Mar. 22, 1888. 53: 229¹³)

General account of *Bruchus pisi* [*pisorum*].

Elm leaf beetle. (Country gentleman. Mar. 29, 1888. 53: 249²⁷)

Remedies are given for *Galerucella luteola*.

Our worst enemies — the bugs. (Country gentleman. Ap. 5, 1888. 53: 269¹²)

Brief account of insect ravages and remedies for the same.

Striped flea beetle. (Country gentleman. Ap. 12, 1888. 53: 289¹⁸)

General account of *Phyllotreta vittata* Fabr.

Unrecognized apple tree attack. (Country gentleman. Ap. 26, 1888. 53: 329²³)

Describes the injury to the limbs of an apple tree, subsequently referred to the oviposition of one of the flower crickets.

White flower cricket. (Country gentleman. Ap. 26, 1888. 53: 329²⁸)

Egg punctures in a Concord grape vine are those of *Oecanthus niveus* Serv.

Leaf hopper. (Vineyardist. May 1, 1888. 2: 113)

Injuries to grapes by *Erythroneura vitis* Harris [*Typhlocyba comes* Say, var.] and remedies.

To kill plant lice. (Farm and home. May 1, 1888. 9: 158, col. 4)

Gives the best method of fighting plant lice.

Bacon beetle attacks comb. (Bee keepers' magazine. May 1888. 16: 143-44)

Records the feeding on the wax of empty honeycomb by the larvae of *Dermestes lardarius* Linn.

Elm leaf beetle. (Country gentleman. May 10, 1888. 53:366³⁷)

Brief notice of *Galeruca xanthomelaena* [*Galerucella luteola*] from Scarsdale, N. Y.

Friends, not foes. (Country gentleman. May 31, 1888. 53:430³²)

Small beetles said to be injurious in hot beds to flower plants are *Tachys incurvus* Say and *Homalota lividipennis* Mann., neither of which could cause the injury.

Maple leaf mite gall. (Country gentleman. June 14, 1888. 53:460⁴⁷-61¹¹)

Describes the galls of *Phytoptus quadripes* Shimer, and gives remedies.

Grape vine pest. (Orange county farmer. June 21, 1888. 7:5, col. 1)

Galls of *Lasioptera vitis* O. S. are described and remedies indicated.

Cockscomb elm gall. (Country gentleman. June 28, 1888. 53:496¹⁵)

Galls on the 'weeping slippery elm' are described and identified as those of *Colopha* [*Glyphina*] *ulmicola* Fitch.

Apple tree tent caterpillar — *Clisiocampa americana*. (Country gentleman. July 5, 1888. 53:511²⁴)

Recommends removal of the egg belts or spraying with arsenites, and records its unusual abundance.

Honey dew on hickory leaves. (Country gentleman. July 5, 1888. 53:511³⁵)

Honey dew is produced by plant lice or may result from a diseased condition of the leaves.

Grape leaf galls. (Country gentleman. July 5, 1888. 53:511⁴⁶)

Galls from Worcester, Mass., are identified as those of *Lasioptera vitis*.

New pest threatens the hay crop. (Albany evening journal. July 7, 1888. p. 7)

Records injury to grass by a species of *Thrips*.

Stalk borer. (Country gentleman. July 12, 1888. 53:532¹⁷)

Larva from Rock Hall, Md., where it is known as the 'bud worm,' and infesting stalks of young corn is *Gortyna* [*Hydroecia*] *nitela* Guen. Remedies are given.

An entomological friend. (Orange county farmer. July 12, 1888. No. 45. 7:8)

15 spotted lady bug, *Anatis 15-punctata* [*ocellata*] is identified and its beneficial habits given.

Ash grey blister beetle. (Country gentleman. July 19, 1888. 53:547²²)

General notice of injuries to potatoes at Charlottesville, Va., by *Macrobasis unicolor* Kirby. The imported Spanish fly, *Cantharis vesicatoria*, is also noticed.

Insects on apple trees. (Country gentleman. July 19, 1888. 53:548¹⁵)

So-called 'black knot' on apple trees is not caused by insects.

Light loving grape vine beetle—*Anomala lucicola*. (Country gentleman. July 26, 1888. 53:565³⁸)

Beetles from grape vines at Hightstown, N. J., are *Anomala lucicola* Fabr. Their general features are given and preventives of attack indicated.

Black long sting. (New England homestead, Aug. 4, 1888. 22:286, col. 5)

Thalessa atrata Fabr. and *T. lunator* Fabr. are characterized and their habit of preying on the larva of *Tremex columba* described.

Grape vine caterpillar—*Thyreus abbotii*. (Country gentleman. Aug. 19, 1888. 53:599²¹)

General account of the food plants, life history and dimorphic larvae of this species is given.

Spittle insects. (New England homestead. Sep. 15, 1888. 22:333, col. 1-2)

Gives habits and injuries to grass by spittle insects.

Fly on the heads of cattle. (Country gentleman. Sep. 20, 1888. 53:705⁴⁷)

Brief notice of a fly attacking cattle [proves to be *Haematobia serrata*.]

Melon plant louse. (Country gentleman. Sep. 27, 1888. 53:725²⁶)

Notifies an attack on muskmelon leaves by *Aphis cucumeris* [gossypii] and galls on the shoots produced by *Cecidomyia* [Diplosis] *cucumeris*.

Hag moth caterpillar. (Country gentleman. Sep. 27, 1888. 53:725³⁶)

Describes the caterpillar of *Phobetron pithecium* Sm.-Abb., and gives its food plants and habits.

An ichneumonized caterpillar. Interesting case of parasitism. (Country gentleman. Sep. 27, 1888. 53:725⁴²)

Describes the cocoons of *Apanteles congregatus* Say on a sphinx larva, probably *Darapsa* [Ampelophaga] *myron* Cram., and records an interesting case of secondary parasitism by a Chalcid.

Thousand legged worms. (Country gentleman. Sep. 27, 1888. 53:725⁴⁷)

Worms destroying geraniums by eating their roots are identified as *Julus caeruleocinctus* Wood and remedies given.

Bee keeper's guide. (Country gentleman. Sep. 27, 1888. 53:727²⁴)

Notifies the 13th edition of the *Manual of the apiary* by Prof. A. J. Cook.

Yellow necked apple tree caterpillar. (Country gentleman. Oct. 4, 1888. 53:743⁴²)

Caterpillars devastating apple trees are identified as *Datana ministra* Drury. Feeding habits and remedies are given.

Cow fly, horn fly or Texan fly. (Country gentleman. Oct. 11, 1888. 53:759²²)

A résumé of what was then known of the insect [*Haematobia serrata*].

Oak galls. (Country gentleman. Oct. 18, 1888. 53:775²⁵)

Small, round, pubescent galls on oak leaves are identified as those of *Neuroterus verrucarum* O. S.

Cow fly or Texas fly. (Country gentleman. Oct. 18, 1888. 53:779²⁵)

The fly [*Haematobia serrata*] is stated to be a species of *Stomoxys*.

Caterpillar on the chestnut. (Country gentleman. Oct. 18, 1888. 53:786²³)

Caterpillars from a Spanish chestnut tree are *Halisidota tessellaris* Sm.-Abb.

White grub of the May beetle. (New York state museum of natural history. Bulletin 5. November 1888. 31p., 5 fig.) [Reprinted, with additions, from the New York state agricultural society, 43d annual report. 1883. New York state agricultural society. Transactions. 1883-86. 34:5-33]

The following are the subheads of the paper: White grub. Egg—Injurious character of the insect—Injuries from the grub—Injuries by the beetle—Life history—Distribution—Its enemies—Preventives and remedies—Study of the insect desired.

Cut worms. (New York state museum of natural history. Bulletin 6. November 1888. 36 p., 28 fig.) [Reprinted, with additions, from the New York state agricultural society, 44th annual report. 1884-85. New York state agricultural society. Transactions. 1883-86. 34:66-100]

Contents: What are cut worms?; Their appearance; Their habits; Habits of the moths; Natural history; Conditions favorable to cut worms; Their food plants; Abundance of cut worms; Literature of cut worms; List of species; Natural enemies; Parasites; Preventives and remedies. Two preventives specially commended.

Red humped apple tree caterpillar. (Country gentleman. Nov. 22, 1888. 55:875²³)

General notice of *Oedemasia* [*Schizura*] *concinna* Sm.-Abb.

4th report on the injurious and other insects of the state of New York. Albany, The Troy press company, printers, 1889. [Issued November 23, 1888] 237 p., 68 fig. (From the New York state museum of natural history. 41st report. 1888. p. 123-358)

<i>Contents</i>		<i>PAGE</i>
Introductory		9
Insect attacks and miscellaneous observations		
Insects of the hemlock	19	<i>Phytomyza lateralis</i> Fallen [<i>chrys-anthemæ</i>], marguerite fly..... 73
Chalcid parasites of <i>Cecidomyia betulae</i> Winnertz.....	27	<i>Megilla maculata</i> DeGeer, spotted lady bird
<i>Isosoma hordei</i> Harris, joint worm fly.....	27	<i>Chauliognathus marginatus</i> Fabr., margined soldier beetle
<i>Thalassa lunator</i> Fabr., lunate long sting	35	<i>Sitodrepa panicea</i> Linn., as a leather beetle.....
<i>Amphibolips prunus</i> Walsh, oak plum gall Cynips.....	42	<i>Xylotrechus colonus</i> Fabr., occurring in a dwelling.....
<i>Aulacomerus lutescens</i> n. sp. [<i>Trichiocampus riminalis</i> Fallen], poplar saw fly	44	<i>Haltica bimarginata</i> Say, alder flea beetle
Currant bushes girdled by an unknown insect.....	47	<i>Crepidodera rufipes</i> Linn., red footed flea beetle.....
<i>Orgyia</i> [<i>Notolophus</i>] <i>leucostigma</i> Sm.-Abb., white marked tussock moth	48	<i>Scolytus rugulosus</i> Ratz., wrinkled Scolytus
<i>Lagoa</i> [<i>Megalopyge</i>] <i>opercularis</i> Sm.-Abb., rabbit moth.....	51	<i>Corythuca ciliata</i> Say, ciliated Tingis
<i>Nephelodes violans</i> Guen. [<i>minians</i> var.] bronze colored cut worm	54	<i>Melanolestes picipes</i> H.-S., black corsair.....
<i>Homoptera lunata</i> Drury, as a rose pest	57	<i>Mytilaspis pomorum</i> Bouché, apple tree bark louse
A hemlock leaf miner	59	<i>Ptyelus lineatus</i> Linn., lined spittle hopper
<i>Cecidomyia balsamicola</i> n. sp., and its gall	60	<i>Ephemera natata</i> Walk. [<i>simulans</i> Walk.], and other Ephemeridae
<i>Lasioptera vitis</i> O. S., and its galls.	63	Hairsnakes as parasitic on insects. 125
<i>Chloropisca prolifica</i> O. S. n. sp. [<i>variceps</i> Loew], and its winter gatherings.....	67	<i>Cermatia</i> [<i>Scutigera</i>] <i>forceps</i> Raf., as a household pest.....

Brief notes on various insects

Dolerus sp.; *Danaus archippus* [*Anosia plexippus*], 135. *Thecla strigosa* [*liparops*]; *Nisoniades* [*Thanaos*] *persius*; *Sphinx canadensis*, 137. *Melittia cucurbitae* [*satyriniformis*]; *Hyppa xylinoides*; *Erebus odora*, 138. *Zerene* [*Cingilia*] *catenaria*; *Anisopteryx* [*Alsophila*] *pometaria*, 139. *Tinea pellionella*; *Mallota* sp., 140. *Anthrenus scrophulariae*; *Alaus oculatus*, 141. *Thanasimus dubius*; *Macroductylus subspinosus*; *Lema trilineata*; *Chrysochus auratus*; *Trirhabda canadensis*, 142. *Galeruca xanthomelaena* [*Galerucella luteola*], 143. *Hylesinus opaculus*; *Phloeotribus liminaris*, 144. *Belostoma americanum*, 145. *Ceresa bubalus*, 146. *Chermes pinicorticis*; *Oecanthus niveus*, 147.

Appendix		PAGE
(A) Some extra-limital insects		151
<i>Carpocapsa saltitans</i> Westw., and its jumping seeds.....		151
<i>Systema blanda</i> Mels. [<i>taeniata</i> Say]—Broad striped flea beetle		155
<i>Leptocoris trivittatus</i> Say—Box-elder plant bug		156
<i>Mantis</i> [<i>Stagmomantis</i>] <i>carolina</i> Linn.—Carolina Mantis.....		158
(B) Entomological addresses :		
Present state of entomological science in the U. S		163
Annual address of the president of the entomological club of the American association for the advancement of science		172
Some pests of the pomologist		183
(C) List of publications of the entomologist during the year 1887.....		193
(D) Contributions to the department during the year 1887.....		205
(E) Errata in former reports		209
General index.....		211
Plant index		235

A familiar pest. (New England homestead. Nov. 24, 1888. 22:421,
col. 1-2)

Identifies the pupa of *Sphinx quinquemaculata* [*Phlegethontius celeus*] and
gives life history briefly.

Identification of the cow fly—*Haematobia serrata*. (Country gentleman.
Nov. 29, 1888. 53:893²⁷)

Reference of the species by Baron Osten Sacken, of Germany, to *Haematobia
serrata* Rob.-Desv.

Wire worms. (Country gentleman. Nov. 29, 1888. 53:893³⁴, fig. 1-6)
Gives several of the best remedies for these pests.

Egg deposits of flower crickets. (Country gentleman. Dec. 6, 1888.
53:911¹¹)

Oecanthus niveus Harris, *Oecanthus fasciatus* DeGeer and *Pelidnota punctata*
Linn. are noticed.

White marked tussock egg clusters. (Country gentleman. Dec. 6, 1888.
53:911¹⁸)

Identifies the eggs of *Orgyia* [*Notolophus*] *leucostigma* Sm.-Abb. and notices
a parasite, *Pimpla conquisitor* Say.

Transformations of *Sesia* [*Hemaris*] *buffaloensis* Gr.-Rob. (American
entomological society. Transactions. 1888. 15:105)

Immature stages are described, the larvae being found on snowball.

Apple tree tent caterpillar. (Country gentleman. Ap. 4, 1889. 54:269¹¹)

Eggs of *Clisiocampa americana* on a peach twig are identified and the insect
briefly noticed.

Apple tree bark louse. (Country gentleman. Ap. 4, 1889. 54:269²²)
Gives the remedy for *Mytilaspis pomorum* Bouché.

Mite infesting dwellings. (Ohio farmer. Ap. 13, 1889. p. 274)
Reported infestation is referred with doubt to *Bryobia* species.

Remarkable display of eel worms. (Country gentleman. May 16, 1889. 54:389¹⁷)

Red appearance in a shallow stream at Saratoga Springs, N. Y., is found to be owing to the presence of myriads of small red worms belonging to the *Anguillulidae*.

Preserving insect specimens. (Country gentleman. May 23, 1889. 54:409²⁸)

Directions are given for preparing a 'cyanide bottle' for the collection of insects.

Cabbage maggot. (Country gentleman. June 6, 1889. 54:440⁴³)

An infusion of burdock, caustic lime applied to the roots, unleached ashes about the plant and kerosene emulsion are remedies recommended.

Apple tree worm. (Country gentleman. June 6, 1889. 54:440⁴⁶)

Remedies are given for *Clisiocampa americana* and its ease of control commented upon.

Rose bug destroying peaches. (Country gentleman. June 6, 1889. 54:441¹¹)

Gives remedies to be used against this insect, *Macroductylus subspinosus*.

Rose leaf hopper. (Country gentleman. June 6, 1889. 54:441¹⁴)

Appearance of *Tettigonia* [*Typhlocyba*] *rosae* Harris and remedies.

[Forest tent caterpillar devastating maples.] (Albany evening journal. June 8, 1889)

Account of the ravages of *Clisiocampa sylvatica* [*disstria*] in a maple grove at Kingsbury, Washington co., N. Y.

Parasite on potato beetle. (Country gentleman. June 13, 1889. 54:456⁴⁴-57¹²)

General notice of *Uropoda americana* Riley, a parasite of the potato beetle.

Grain aphid. (Country gentleman. June 13, 1889. 54:457¹⁷)

Records an attack on wheat at Allendale, Ill., by the grain aphid, *Siphonophora* [*Nectarophora*] *granaria*.

Apple tree flies. (Country gentleman. June 13, 1889. 54:457²³)

Fly occurring 'by millions' on apple trees at Meadville, Pa. [June 4] is the white winged Bibio, *Bibio albipennis*.

Hop yard pest reappears. (Albany evening journal. June 20, 1889. p. 1; Utica morning herald. June 21, 1889; Fort Plain free press. June 25, 1889; Country gentleman, June 27, 1889. 54:497¹¹)

Warning of attack by the hop aphid, *Phorodon humuli*; remedies given.

Currant aphid. (Country gentleman. June 20, 1889. 54:474³¹)

Gives remedies for aphid on currant stems, may be *Myzus ribis*.

Asparagus beetle. (Country gentleman. June 20, 1889. 54:478²⁸)

Crioceris asparagi is identified and remedies given.

Grain aphid. (Country gentleman. June 27, 1889. 54:496³³)

Identification of *Siphonophora avenae* [*Nectarophara granaria*] on wheat from LaGrange, Ill.

Insect depredations. (Country gentleman. June 27, 1889. 54:496⁴⁸)

Remarks on the grain aphid injuring wheat in Indiana.

Our insect enemies and how to meet them. [An address before the New Jersey state board of agriculture, at its annual meeting at Trenton, Feb. 1, 1889. Camden, N. J., [July] 1889. 22 p.] (State board of agriculture. 16th report. 1888-89. p. 285-304)

Importance of agriculture—its present and future. Economic entomology. Importance of entomological study. Secrecy of insect depredations. Small size of insects. Number of insects. Rapidity of propagation. Voracity of insects. Can insect ravages be prevented? How to meet our insect enemies.

Early appearance of the common house fly and its fungus. (Albany evening journal. July 11, 1889)

Records the early appearance of *Musca domestica* and its fungus.

Corn worm. (New England homestead. July 13, 1889. 23:237, col. 1)

Caterpillar of *Gortyna* [*Hydroecia*] *nitela* is identified feeding on the tassels of corn.

Insects on lima beans—squash bugs. (Country gentleman. July 18, 1889. 54:543²².)

The insect on beans can not be identified without examples. Cucumber beetle, *Diabrotica vittata*, and squash bug *Anasa tristis*, are noticed.

Remedies for the hop louse. (New England homestead. July 27, 1889. 23:253, col. 6)

Gives several remedies for this insect, *Phorodon humuli*.

Yellow woolly bear. (New England homestead. July 27, 1889. 23:253, col. 6)

Caterpillar, *Spilosoma virginica*, known in the winged state as 'the white miller' is identified.

White grub of the May beetle—*Lachnosterna fusca*. (New York state agricultural society. Transactions. 1883-86. [July] 1889. 34:5-33, fig. 1-5)

Reprint, with additions, of Bulletin 5 of the New York state museum of natural history. For contents, see 5th report on the insects of New York, 1889. p. 308.

Cut worms. (New York state agricultural society. Transactions. [July] 1889. 34:66-100, fig. 1-28)

Reprint, with additions, of Bulletin 6 of the New York state museum of natural history.

Aphididae or plant lice. (New York state agricultural society. Transactions. [July] 1889. 34:101-15, fig. 1-9)

Reprint, with illustrations and additional matter, from the proceedings of the Western New York horticultural society. 1887. For contents, see 4th report on the insects of New York. 1888. p. 194.

Grain aphid. (Country gentleman. Aug. 1, 1889. 54:579²²)

Heads of rye from Stone Ridge, N. Y., show attack by *Siphonophora avenae* [*Nectarophora granaria*].

Maple tree borer. (Country gentleman. Aug. 1, 1889. 54:579²⁶)

Identifies the larvae infesting maples as probably those of *Glycobius* [*Plagionotus*] *speciosus* and gives the remedies.

Cow fly. (Country gentleman. Aug. 1, 1889. 54:579³³)

Notifies the cow fly, *Haematobia serrata*, and names several remedies.

Insects in wheat — not injurious. (Rural New Yorker. Aug. 3, 1889. 48:509, col. 1-2)

States that the small, shining, black beetles in heads of wheat are *Phalacrus politus* Linn. They are scavenger beetles, and are not injurious.

Oak tree pruner. (Country gentleman. Aug. 29, 1889. 54:651³⁸)

Notifies the work of *Elaphidion parallelum* [*villosum*] in branches of red oak.

A bombarding beetle. (Country gentleman. Sep. 5, 1889. 54:671¹¹)

Describes discharge of a 'bombardier,' its effects, and names *Brachinus fumans* as a common form.

Black blister beetle. (Country gentleman. Sep. 12, 1889. 54:694²³)

Notifies the work of *Epicauta pennsylvanica* DeGeer on chrysanthemums and gives remedies.

Mites in bran. (Country gentleman. Sep. 19, 1889. 54:711²⁷)

Tyroglyphus siro in bran may be killed with carbon bisulfid.

Beech tree borer—*Aegeria* [*Sanninoidea*] *exitiosa*. (Country gentleman.

Nov. 14, 1889. 54:861¹⁸)

Extended account of this insect is given.

Insects in cord wood. (Country gentleman. Nov. 14, 1889. 54:862³⁴)

Sounds from wood stored in a dry cellar can not be identified from the description.

A horn tail and its enemies. Country gentleman. Nov. 21, 1889. 54:881²⁵)

Treats of a maple borer, *Tremex columba* Linn. and its parasite, *Thalessa*.

5th report on the injurious and other insects of the state of New York.

Albany, the Troy press company, printers, 1889. [Issued Nov. 23, 1889] 205 p., 50 fig. Also as report of the state entomologist to the regents of the University of the State of New York, for the year 1888. (State museum of natural history. 42d annual report of the trustees, for the year 1888 [Nov. 20, 1889]. p. 145-347, fig. 1-50)

<i>Contents</i>	PAGE
Transmittal	151
Remedies and preventives of insect attack	
Cutting out the squash vine borer.....	155
Change of soil for strawberry plants.....	156
Brine for the currant worm	156
Saltpetre not a preventive of cabbage fly attack	157
Preventives for cabbage fly attack	158
Beans for repelling the striped cucumber beetle.....	159
Gas lime for the woolly aphis	160
How to kill the apple tree aphis	160
Tobacco dust for aphis attack.....	162
A lime wash for bark lice.	163
Injurious Hymenoptera	
<i>Nematus</i> [<i>Lygaeonematus</i>] <i>erichsonii</i> Hartig, larch saw fly.....	164
<i>Nematus salicis-pomum</i> Walsh [<i>Pontania pomum</i>], willow apple gall saw fly	173
Injurious Lepidoptera	
<i>Darapsa</i> [<i>Ampelophaga</i>] <i>myron</i> Cramer, green grape vine sphinx.....	174
<i>Alypia octomaculata</i> Fabr. and <i>Eudryas</i> [<i>Euthisanotia</i>] <i>grata</i> Fabr., eight spotted forester and beautiful wood nymph.....	179
<i>Phobetron pithecium</i> Sm.-Abb., hag moth caterpillar.....	183
<i>Anisota senatoria</i> Sm.-Abb., senatorial oak moth	192
<i>Agrotis</i> [<i>Peridroma</i>] <i>saucia</i> Hübn., variegated cut worm.....	200
<i>Mamestra picta</i> Harris, zebra cabbage caterpillar.....	206
<i>Mamestra grandis</i> Boisd., poplar feeding cut worm.....	210
<i>Penthina nimbatana</i> Clemens, rose leaf tyer	213
<i>Incurvaria acerifoliella</i> Fitch, maple leaf cutter	215
Injurious Diptera	
<i>Haematobia serrata</i> Rob.-Desv., cow horn fly.....	220
Injurious Coleoptera	
<i>Dynastes tityus</i> Linn., spotted horn bug.....	227
<i>Otherea bimaculata</i> Oliv., raspberry cane girdler	231
<i>Galeruca xanthomelaena</i> Schrank [<i>Galerucella luteola</i> Müll.], elm leaf beetle	234
Injurious Hemiptera	
<i>Clastoptera obtusa</i> Say, alder spittle insect.....	242
<i>Siphonophora avenae</i> Fabr. [<i>Nectarophora granaria</i> Kirby], grain aphis....	246
<i>Myzus cerasi</i> Fabr., cherry aphis	253

Insect attacks and miscellaneous observations	PAGE
Canker worm, <i>Anisopteryx</i> [<i>Paleacrita</i>] <i>vernata</i> Peck.....	258
Abundance of Geometrid larvae.....	259
Apple leaf Bucculatrix.....	260
Clover seed midge, <i>Cecidomyia leguminicola</i> Lintn.....	262
Hessian fly, <i>Cecidomyia destructor</i> Say.....	263
<i>Sciara</i> sp.? occurring on wheat.....	264
Cabbage fly, <i>Anthomyia</i> [<i>Phorbia</i>] <i>brassicae</i> Bouché.....	265
Lady bug attack on scale insects.....	266
Carpet beetle, <i>Anthrenus scrophulariae</i> Linn.....	267
Oak pruner, <i>Elaphidion parallelum</i> Newm. [<i>villosum</i> Fabr.].....	268
Oviposition of <i>Saperda candida</i> Fabr.....	269
<i>Orthaltica copalina</i> Fabr.....	271
Clover leaf weevil destroyed by a fungus attack.....	272
<i>Poecilocapsus lineatus</i> Fabr.....	273
Attack on young pears by a plant bug.....	275
Experiment with the 13 year Cicada.....	276
White scale insect attack on ivy, <i>Aspidiotus nerii</i> Bouché.....	278
Black knot of the plum tree and its guests.....	280
Collections in the Adirondack region, et al.....	281
Collections in the Adirondack region in 1885.....	283
Acarina and Myriapoda	
Mite attack on garden plants.....	287
Parasitic mite of a sexton beetle.....	289
Parasitic attack on the Colorado potato beetle.....	289
Cheese mite infesting smoked meats, <i>Tyroglyphus siro</i> Linn.....	291
Cheese mite infesting flour.....	294
Food of <i>Cermatia</i> [<i>Scutigera</i>] <i>forceps</i> Raf.....	295
<i>Julus caeruleocinctus</i> beneath carpets.....	296
Appendix	
(A) List of publications of the entomologist.....	299
(B) Contributions to the department.....	324
General index.....	327
Plant index.....	345

Bean weevil. (New England homestead. Dec. 21, 1889. 23:425, col. 2-3)

Gives several remedies for this insect.

Gypsy moth in Medford, Mass. (Country gentleman. Jan. 23, 1890. 55: 69²⁵)

Comment on a notice in the New York world on the introduction in Medford of the European gypsy moth, *Oenaria* [*Porthetria*] *dispar*.

Insect pests of the state [New York.] (Albany evening journal. Jan. 23, 1890. 34:3)

Extract from an address before the Albany farmers' institute, held the above date.

Mites infesting smoked meats. (Orange judd farmer. Jan. 25, 1890. 7: 63, col. 1-2)

Records an infestation of smoked hams in a provision house by *Tyroglyphus siro*. Several remedies are given.

Useful insects. (Country gentleman. Feb. 27, 1890. 55: 170³⁷)

Eggs of the Carolina mantis are identified and its beneficial habits stated.

Singular fly. (New York times. Ap. 14, 1890. p. 5, col. 2; Albany daily press and knickerbocker. Ap. 15, 1890; Plattsburg [N. Y.] morning telegram. Ap. 23, 1890)

Records the abundance of *Chloropisca prolifica* Osten Sacken [*variceps* Loew] in a house in September.

Fighting the insect pests. (Albany evening journal. Ap. 16, 1890, 44 cm)

Report of a paper read before the Albany institute, Ap. 15, 1890, noticing a number of insects briefly.

Late experiences with insects injurious to the orchard and garden.

[Read before the Western New York horticultural society, at its annual meeting, Jan. 22, 1890] (Western New York horticultural society, proceedings at its 35th annual meeting, Jan. 22, 23, 1890. p. 16-35) Also, in separates, 20 p. [Ap. 22, 1890].

Treats of insecticides and fungicides combined and briefly of a number of insects.

Spraying for the curculio. (Country gentleman. Ap. 24, 1890. 55: 329¹⁶)

Manner of spraying for the cureulio.

Apple tree insects. (Country gentleman. Ap. 24, 1890. 55: 329²³)

Identifies the cocoons of the apple leaf Bucculatrix, *B. pomifoliella* Clem. and the eggs of the apple tree tent caterpillar, *Clisiocampa americana*.

Poisoning insects. (Country gentleman. May 1, 1890. 55: 347¹²)

Directions are given for using paris green and london purple in water for spraying purposes.

Fly, *Chloropisca prolifica* [*variceps*]. (Country gentleman. May 1, 1890. 55: 349²³)

General notice of the insect in this country and abroad.

Voracity of the silk worm. (Albany times. May 8, 1890. p. 2)

Corrects gross errors about the weight of a recently hatched silk worm and the amount it consumes.

Spraying for fruit tree insects. (Country gentleman. May 22, 1890. 55: 407⁴¹)

Arsenites are recommended for use in gardens provided they are not applied too strong.

Eggs in plum twig. (Country gentleman. May 22, 1890. 55:407⁴⁷)

Deposit of eggs in a plum twig are doubtless those of some 'tree hopper' allied to *Ceresa bubalus*.

Australian lady bug. (New York times. May 23, 1890)

Notices *Vedalia* [*Novius*] *cardinalis* and its extermination of the *Icerya* scale. [Eye spotted budmoth] (Albany evening journal. May 28, 1890. p. 6)

Describes the ravages and gives the remedy for this insect.

Insect strawberry pests. (New England farmer. June 4, 1890. p. 1)

Notices *Paria aterrima* [*Typophorus canellus*] and *Otiorhynchus ovatus*.

Wire worms on cabbage. (Country gentleman. June 5, 1890. 55:450⁴⁵)

Mentions several species of wire worms attacking cabbage.

Grain aphid. (Country gentleman. June 12, 1890. 55:470³⁵)

No method known of arresting a serious attack on rye by *Siphonophora avenae* [*Nectarophora granaria*].

Coleophora sp.—A new pear insect. (Popular gardening. June 1890. 5:198, col. 1-2)

Records an attack by a case bearer on pears.

Pear blight beetle. (Popular gardening. June 1890. 5:198, col. 2)

Notices an attack by *Xyleborus pyri* [*dispar*] in a pear orchard at Lockport, N. Y.

Quince blossom beetle. (Popular gardening. June 1890. 5:198, col. 2)

Records injury by a snapping beetle [*Limonius confusus*] to quince blossoms.

Peach bark borer. (Popular gardening. June 1890. 5:198, col. 2)

No preventive of the attack of this Scolytid borer, [*Phloeotribus liminaris*], is known. Infested trees should be taken up and burned.

Grape vine flea beetle. (Popular gardening. June 1890. 5:198, col. 2)

Remedies for this insect [*Haltica chalybea*] are given.

New enemy of the currant worm. (Popular gardening. June 1890. 5:198, col. 2)

One of the large plant bugs, *Podisus cynicus*, preys upon it.

17 year locusts make their appearance. (Albany morning express. June 13, 1890. p. 2)

Capture of examples of *Cicada septendecim* reported at Tivoli, N. Y.

Grain weevil distributed. (Country gentleman. June 19, 1890. 55:489¹¹)

Records the distribution of seed corn, badly infested with *Calandra oryza* Linn.

Sheep scab. (Country gentleman. June 19, 1890. 55:493²³)

Brief notice of the scab mite, *Psoroptes equi* [communis].

[Grain aphid] (New England homestead. June 21, 1890. 24:216, col. 6)

Grain aphid is quite prevalent in rye fields in New York and New Jersey.

[Insects killed by electric lights] (Albany evening journal. June 26, 1890, p. 5)

100,000, the estimated number of insects killed by one arc light in a single night.

Rose leaf hopper and rose slug. (Country gentleman. July 3, 1890. 55:538¹¹)

Notifies the injuries to roses by *Tettigonia* [*Typhlocyba*] *rosae* Harr. and the rose slug, *Selandria* [*Monostegia*] *rosae* Harr.

Sweet potato beetles. (Country gentleman. July 3, 1890. 55:538¹⁹)

Notifies briefly *Cassida nigripes* and *Coptocycla aurichalcea* [bicolor].

New bug. [Destructive apple tree insect] (New England homestead. July 5, 1890. 24:232, col. 4)

Caterpillar boring into the pith of the new wood of apple trees is identified as the eye-spotted bud moth, *Tmetocera ocellana*.

[Corn] cutworm. (Country gentleman. July 24, 1890. 55:590¹⁸)

Identifies the boll worm or corn worm of the southern states, *Heliothis armiger*, and gives a remedy.

Locust tree borer. (Country gentleman. Aug. 14, 1890. 55:644¹⁶)

Gives several preventives of attack by *Cyllene robiniae*.

Syrphus fly. (Country gentleman. Aug. 14, 1890. 55:644³³)

Rat tailed larva found in a cow stable may be a species of *Eristalis* (it proved to be *E. tenax* Linn.).

Elm tree beetle. (Country gentleman. Aug. 14, 1890. 55:644³⁸)

Recommends spraying with paris green and killing larvae on the trunks.

[Collections in Keene Valley, N. Y.] (Albany evening journal. Aug. 16, 1890. p. 6)

Brief notice of collections made in the Adirondacks by the state entomologist, and of a reported disease of pine trees near Keene Valley.

Insect parasites. (Country gentleman. Aug. 21, 1890. 55:662¹⁴)

Identifies *Apanteles congregatus* Say as a parasite of the green grape vine Sphinx.

Carpet beetle. (Country gentleman. Aug. 21, 1890. 55:662³³)

Gives remedies for *Anthrenus scrophulariae*.

[Severe bite of a horse fly] (Albany evening journal. Aug. 28, 1890. p. 8)

Describes the effect of the painful bite of a horsefly, *Tabanus atratus*.

Curious jumping gall. (Popular science news. Aug. 1890. 24:119. col. 1-3)

Curious insect from England is identified as probably the bedeguar of the hawthorn, *Cecidomyia crataegi* Winnertz.

Midge or punky of the Adirondacks. (Albany evening journal. Sep. 5, 1890. p. 5, col. 2)

Punky or 'the little gray gnat' is the name preferred for this insect.

[Mites infesting a water trough] (Albany evening journal. Sep. 5, 1890. p. 5, col. 2)

Mites occurring at Schodack Center, N. Y., are probably *Bryobia pratensis*.

Spittle insects. (Country gentleman. Sep. 25, 1890. 55:759⁴⁴)

Gives characters and habits of spittle insects.

Mite parasitic on the house fly. (Albany evening journal. Oct. 1, 1890. p. 6, col. 2)

Some flies were infested with a red mite which is identified as *Trombidium muscarum* Riley.

Pear leaf blister. (Country gentleman. Oct. 2, 1890. 55:781³⁵)

Identifies the work of *Phytoptus pyri* and gives remedies.

Weevils in rye. (Country gentleman. Oct. 2, 1890. 55:782²³)

Weevil is probably *Calandra granaria*. Carbon bisulfid is recommended.

6th report on the injurious and other insects of the state of New York.

Albany, James B. Lyon, state printer, 1890. [Issued Oct. 2, 1890]

110 p., 25 fig. Also as report of the state entomologist to the regents of the University of the State of New York, for the year 1889. (New York state museum of natural history. 43d report, for the year 1889, p. 99-206, fig. 1-25)

Contents

	PAGE
Introductory	103
Notices of various insects:	
<i>Eumenes fraternus</i> Say, fraternal potter wasp	109
<i>Hypoderma bovis</i> De Geer [also <i>H. lineata</i>], ox warble fly	111
<i>Drosophila</i> sp., flour paste fly	116
<i>Adalia bipunctata</i> Linn., two spotted lady bird	117
<i>Dermestes lardarius</i> Linn., bacon beetle	119
<i>Agilus ruficollis</i> Fabr., raspberry gouty gall beetle	123
<i>Coptocycla aurichalcea</i> Fabr. [<i>bicolor</i> Fabr.] golden tortoise beetle	125
<i>Coptocycla clavata</i> Fabr., clubbed tortoise beetle	126
<i>Bruchus scutellaris</i> Fabr. [<i>chinensis</i> Linn.], pea weevil	127
<i>Hymenorus obscurus</i> Say, a bark beetle	129
<i>Meloë angusticollis</i> Say, oil beetle	130
<i>Epicauta vitatta</i> Fabr., striped blister beetle	132
<i>Epicauta cinerea</i> Forst., margined blister beetle	134

Contents — concluded

Notices of various insects—continued:	PAGE
<i>Epicauta pennsylvanica</i> DeGeer, black blister beetle.....	135
<i>Pomphopoea sayi</i> Le Conte, Say's blister beetle.....	136
<i>Podisus spinosus</i> Dallas, spined soldier beetle.....	137
<i>Prionidus cristatus</i> Linn., nine pronged wheel bug.....	138
<i>Pulvinaria innumerabilis</i> Rath., maple tree scale insect.....	141
<i>Aphis brassicae</i> Linn., cabbage aphid	147
<i>Gryllotalpa borealis</i> Burm., mole cricket	149
<i>Melanoplus femur-rubrum</i> DeGeer, red legged grasshopper.....	151
Some apple tree insects	153

Notices of Arachnida:

<i>Ixodes</i> [<i>Boophilus</i>] <i>bovis</i> Riley, cattle tick	156
<i>Bryobia pratensis</i> Garman, infesting a dwelling house	158

Appendix:

(A) List of publications of the entomologist.....	165
(B) Contributions to the department.....	186
Index	191

Snails — slugs. (Country gentleman. Oct. 16, 1890. 55:819²⁴)

Gives remedies for snails in mushroom beds.

Diseased Austrian pines. (Country gentleman. Oct. 16, 1890. 55:820²⁴)

Cause of unhealthy condition not known. *Chionaspis pinifoliae* Fitch, a few black thrips and some mites are present, but could not have caused the injury.

Manual of injurious insects. (Country gentleman. Oct. 16, 1890. 55:822⁴⁶—23¹⁶)

Notice of a new edition of Miss E. A. Ormerod's manual.

A guest to be welcomed in our homes. (Amsterdam [N. Y.] daily democrat. Nov. 1, 1890. p. 2, col. 5)

Larva of *Scenopinus fenestralis* Linn. does not injure woollens or other fabrics, but feeds only, so far as known, on the larvae and pupae of the clothes moth.

Bean weevil. (Country gentleman. Nov. 13, 1890. 55:898³⁷)

Gives life history of *Bruchus obsoletus* [*obtectus*] and remedies.

Larch saw fly. (Country gentleman. Nov. 13, 1890. 55:905⁴²)

Ravages of *Nematus* [*Lygaeonematus*] *erichsonii* Hartig are described and the remedy given.

Bot fly of the hare. (Country gentleman. Nov. 13, 1890. 55:905⁴⁶—6¹²)

Notices *Cuterebra cuniculi* Fabr. and *Cuterebra emasculator* Fitch.

Insects infesting maple trees. (New England homestead. Nov. 15, 1890. 24: col. 4)

Imperfect description does not admit of identification.

Striped cucumber beetle. (Country gentleman. Nov. 20, 1890. 55:925⁴⁴—26¹²)

Gives remedies for *Diabrotica vittata* Fabr.

Woolly bear caterpillar—*Pyrrharctia isabella*. (Country gentleman. Nov. 27, 1890. 55:941²⁶)

A general account of its habits and life history.

Apple leaf bucculatrix. (Country gentleman. Dec. 4, 1890. 55:962³³)

Small white cocoons on apple twigs are identified as those of *Bucculatrix pomifoliella*.

Squash bug. (Country gentleman. Jan. 8, 1891. 56:33¹⁵)

Gives the best remedies for this pest.

Grain weevil infesting mills. (Country gentleman. Jan. 15, 1891. 56:47¹⁷)

Recommends bisulfid of carbon for *Calandra granaria*.

Protection from insect injuries. (Albany morning express. Jan. 23, 1891. p. 2, col. 5) [Abstract of an address before the farmers' institute at Albany, Jan. 22, 1891]

General address on the losses caused by insects and means to be used against them.

Bacon beetle. (Country gentleman. Feb. 12, 1891. 56:130³⁵)

Records *Dermestes lardarius* in soiled clothing.

Insectivorous birds. (Albany evening journal. Feb. 14, 1891. p. 6, col. 3)

Protecting the birds. (New York times. Feb. 15, 1891)

Remarks before the assembly committee on game laws, asking for such amendments and additions to the revised game law as shall protect birds beneficial to the agriculturist in the destruction of insect pests, and withholding protection from those which are detrimental; prominent among these last is the English sparrow.

Scale insects. (Country gentleman. March 26, 1891. 56:257²⁸)

Leaves of oleander and camellia show attacks of scale insects—the former of *Aspidiotus nerii* Bouché and the latter of a species of ? *Parlatoria*.

Bark lice. (Country gentleman. Mar. 26, 1891. 56:257³³)

Gives remedies for scale insects.

Blind crustacean from a well. (Albany evening journal. Mar. 27, 1891. p. 6, col. 2; New York times. Mar. 28, 1891. p. 2, col. 5)

Small crustacean infesting a driven well of moderate depth, is identified as *Crangonyx mucronatus* Forbes.

Injurious insects. (Country gentleman. Ap. 2, 1891. 56:273²⁴)

Treats of a number of insect pests and insecticides.

Quince tree borer. (Country gentleman. Ap. 9, 1891. 56:294⁴⁶)

Recommends soft soap and carbolic acid wash.

Honey dew on pear twigs. (Country gentleman. Ap. 16, 1891. 56:317¹¹)

It has no connection with apple scab. Probably the trees had been attacked by *Psylla pyri* [*pyricola*].

Arsenic and honey — experiments. [Is arsenical spraying harmful to honey bees?] (Country gentleman. Ap. 16, 1891. 56:317¹⁵)

The liability of bees to be poisoned from blossoms sprayed with arsenites should be determined by experiment.

Entomology. (37th annual meeting of the western New York horticultural society. Proceedings. Jan. 28 and 29, 1891. April 1891. p. 10-17. Also, as separates, 8 p.)

Report of the society's committee on entomology, upon 'Spraying with insecticides,' and 'Some garden and orchard insects.' Topics embraced are: Effect of london purple on the plum. London purple on the peach. Solubility of london purple. An efficient nozzle for low spraying. Addition of lime to the arsenites. Fungicides combined with the arsenites. Spraying for the plum curculio. Spraying for the codling moth. New insecticidal machine. Insecticides lately recommended. Protection from the striped cucumber beetle. Apple curculio. Pear blight beetle. Rose bug. Marguerite fly. Bean weevil.

How to control the hop aphid. (New England homestead. May 2, 1891. 25:193, col. 1)

Gives remedies and manner of applying them.

Apple tree insects of early spring. (Country gentleman. May 7, 1891. 56:374³⁴-75⁴¹)

The following are noticed: apple aphid, *Aphis mali* Fabr.; apple tree case bearer, *Coleophora malivorella* Riley; eye spotted bud moth, *Tmetocera ocellana* Schiff.; apple leaf Bucculatrix, *B. pomifoliella* Clem.; pear tree *Psylla*, *Psylla pyri* [*pyricola*], and remedies given.

Orange leaf trouble. (Country gentleman. May 7, 1891. 56:375²⁸)

Not caused by *Typhlodromus oleivorus*, but may possibly be owing to an attack by a species of *Lecanium* or *Ceroplastes*.

How to kill the rose bug. (New England homestead. May 9, 1891. 25:205, col. 1)

Recommends hand picking or spraying with sludge oil soap solution.

[*Cermatia* centipede.] (Albany morning express. May 19, 1891. p. 55:8, col. 1)

Pyrethrum recommended for the destruction of *Cermatia* [*Scutigera*] *forceps*.

Wire worms in corn. (Country gentleman. May 28, 1891. 56:431⁴³)

Gives several methods of protecting recently planted corn.

Apple worm. (Country gentleman. May 28, 1891. 56:438²⁷)

Carpocapsa pomonella breeds in pears, plums, peaches and apricots, in addition to the apple.

Wheat insects. (Country gentleman. May 28, 1891. 56:438³³)

Identifies an attack on wheat as probably that of *Siphonophora avenae* [*Nectarophora granaria*].

Destructive to pears—A pest discovered in a Catskill orchard—*Diplosis pyrivora*. (Albany evening journal. May 30, 1891. p. 8, col. 1; Sun [N. Y.] June 1, 1891. p. 3, col. 5)

Records the occurrence of the pear midge in the Catskill orchards and points out its dangerous character.

Insect pests. (Oswego daily times. June 2, 1891. 49:4, col. 2)

Notices a new case worm or Coleophora on apple, eye spotted bud worm, *Tmetocera ocellana*, apple leaf Bucculatrix, *B. pomifoliella* and *Aspidisca splendoriferella*.

Another formidable insect pest. (Oswego daily times. June 3, 1891. 49:5, col. 2-3)

Pear midge, *Diplosis pyrivora*, discovered at Catskill, N. Y. Gives its injuries, life history and methods of controlling it.

Melon and strawberry pests. (Country gentleman. June 4, 1891. 56:457¹⁷)

Treats of *Aphis cucumeris* [*gossypii*] and the flea like negro bug, *Corimelaena pulicaria* Germ.

Peach tree borer. (Country gentleman. June 4, 1891. 56:457²³)

Gives a number of remedies for this insect.

A serious danger—New pest that threatens the pear crop. (New England homestead. June 13, 1891. 25:249, col. 4)

Introduction of the pear midge, *Diplosis pyrivora*, injuries and remedies.

Gartered plume moth. (Country gentleman. June 18, 1891. 56:497³¹)

Brief account of *Oxyptilus periscelidactylus*.

[New onion pest] (Albany evening journal. June 19, 1891. p. 8, col. 5)

Notices *Agrotis ypsilon* Rott., or the black cut worm—a common and widespread species not previously reported on onions.

New strawberry pest. (Country gentleman. June 25, 1891. 56:515²⁷)

Records *Serica tristis* LeConte, as a strawberry pest.

Lady bird and cherry aphid. (Country gentleman. July 2, 1891. 56:537¹⁷)

Notices black cherry aphid *Myzus cerasi*, and 15 spotted lady bird, *Anatis 15-punctata* [*ocellata*].

Beet insects. (Country gentleman. July 16, 1891. 56:577⁴²)

The serious injury to beets is in part due probably to *Lygus pratensis*, species of flea beetles, and some leaf miner, probably a species of *Anthomyia*.

Apple aphid. (Country gentleman. July 16, 1891. 56:578¹⁹)

Severe attack of *Aphis mali* Fabr. is recognized and remedies given.

Pear tree psylla. (Country gentleman. Aug. 6, 1891. 56:637²⁴)

General notice, giving introduction, distribution and remedies for *Psylla pyricola*.

Insects injuring red raspberries. (Rural New Yorker. Aug. 8, 1891. 50:577, col. 3)

Caterpillar found on red raspberry is identified as *Synchlora rubivoraria* [*glaucaria*].

Pine beetle injuring linen. (Country gentleman. Aug. 27, 1891. 56:706¹¹)

Records injury to linen by a beetle, probably a Ptinid, which was boring in pine shelving.

Foe of the Kilmarnock willow. (Orange county farmer. Sep. 3, 1891. 10:1, col. 2)

Identifies the apple tree bark louse, *Mytilaspis pomorum* Bouché, on Kilmarnock willows and gives remedies.

New dairy pest. (Oswego semi-weekly times. Sep. 4, 1891. 2:1, col. 1)

General account of the cow horn fly [*Haematobia serrata*] giving introduction, injuries and remedies.

Cow horn fly in New York. (Country gentleman. Sep. 10, 1891. 56:735²²)

Gives injuries, distribution and remedies for *Haematobia serrata*.

Leaf eating beetle. (Country gentleman. Sep. 10, 1891. 56:735³⁴)

Beetle taken on a cherry tree is *Euphoria fulgida* Fabr.

Elm leaf beetle. (Country gentleman. Sep. 10, 1891. 56:735³⁵)

Larvae are probably those of *Galeruca xanthomelaena* [*Galerucella luteola*].

Grape curculio. (Country gentleman. Sep. 10, 1891. 56:735³⁷)

Records injuries by the grape curculio, *Craponius inaequalis* Say, and gives a preventive.

Measuring worm. (Country gentleman. Sep. 10, 1891. 56:735⁴³)

Caterpillar sent for name may be *Eutrapela* [*Sabulodes*] *transversata* Drury.

Rat tail larva. (Country gentleman. Sep. 10, 1891. 56:735⁴⁵)

Rat tail larva is one of the *Syrphidae*, resembles *Helophilus latifrons*.

Locust mite. (Country gentleman. Sep. 24, 1891. 56:775¹⁵)

Locust mite, *Trombidium locustarum* Riley, is named, and its life history briefly given.

Cecropia caterpillar. (Country gentleman. Sep. 24, 1891. 56:777²⁷)

Describes the markings and beauty of the Cecropia caterpillar.

An interesting caterpillar. (Country gentleman. Oct. 1, 1891. 56:797³⁸)

Describes the cocoon of *Artace punctistriga* and gives briefly the features of *Cerura* caterpillars.

Grape vine leaf hopper. (Country gentleman. Oct. 8, 1891. 56:815²⁷)

Mentions the leaf hoppers, *Erythoneura vitifex* Fitch [*Typhlocyba comes* Say] and *E. vitis* [*Typhlocyba comes* var.] with remedies.

[Extraordinary flight of moths] (Albany evening journal. Oct. 20, 1891. col. 5)

Records a flight continuing for two nights and a day of *Zerene* [*Cingilia caenaria* Drury.

Squash bug. (Country gentleman. Oct. 22, 1891. 56:854⁴³)

Anasa tristis DeGeer is identified and a brief sketch of its habits and transformations given.

A destructive potato aphid. (Country gentleman. Oct. 22, 1891. 56:857⁴⁴)

Records serious injuries to potatoes by a plant louse.

White grubs. (Country gentleman. Oct. 29, 1891. 56:875⁴⁶)

White grubs sent for name may be those of *Lachnosterna fusca* Fröhl.

Sprayed grapes are harmless. (Entomological news. Nov. 1891. 2:181)

There is not a poisonous amount of copper on the grapes and their destruction was unwarranted.

Pear midge, *Diplosis pyrivora*, in New York. (Canadian entomologist. Nov. 1891. 23:224)

Noticed for the first time in New York the present year at Catskill, N. Y.

On the eye spotted bud moth in western New York. (Canadian entomologist. Nov. 1891. 23:231)

Abundance of *Tmetocera ocellana*, habits of the caterpillar, remedies.

On some of our *Orgyias*. (Canadian entomologist. November 1891. 23:232)

Does *Orgyia* [*Notolophus*] *definita* occur at Albany? Is *O. nova* [*Notolophus antiqua*] identical with *O.* [*Notolophus*] *antiqua* of Europe?

Killing the pea weevil. (Rural New Yorker. Ap. 2, 1892. 51:227, col. 2-3)

Bruchus pisi [*pisorum*] may be killed by heat or the vapor of bisulfid of carbon.

Early 'grasshoppers.' (Country gentleman. Ap. 14, 1892. 57:286⁴³-87¹¹)

Notices a very early appearance of the young of the green striped locust, *Chimarocephala* [*Chortophaga*] *viridifasciata* De Geer.

7th report on the injurious and other insects of the state of New York. Albany, James B. Lyon, state printer, 1891 [Issued May 8, 1892] 210 p., 40 fig. Also as report of the state entomologist for the year 1890. (New York state museum. 44th annual report, for the year 1890. p. 197-405, fig. 1-40)

Contents

	PAGE		PAGE
Introductory.....	215	<i>Erebus odora</i>	306
Injurious insects.....	223	<i>Tmetocera ocellana</i> , eye spotted	
<i>Aulacomerus lutescens</i> [<i>Trichio-</i>		bud moth.....	306
<i>campus viminalis</i>], poplar saw		<i>Cecidomyia balsamicola</i> , balsam	
fly.....	223	<i>Cecidomyia</i>	307
<i>Pyrrharcia isabella</i> , black and		<i>Cecidomyia</i> sp? within a jumping	
red woolly bear.....	225	gall.....	308
<i>Helophilus latifrons</i> —one of the		<i>Epilachna borealis</i> , northern lady	
Syrphus flies.....	228	bird.....	310
<i>Chloropisca prolifica</i> [<i>variceps</i>		<i>Sitodrepa panicea</i> , as a leather	
Loew], prolific Chlorops.....	234	beetle.....	310
<i>Phytomyza chrysanthemi</i> , chrysan-		<i>Aphodius fimetarius</i> , a dung	
themum fly.....	242	beetle.....	312
<i>Dynastes tityus</i> , rhinoceros beetle	246	<i>Saperda candida</i> , round headed	
<i>Bruchus obsoletus</i> [<i>obtectus</i>], bean		apple tree borer.....	313
weevil.....	255	<i>Diabrotica 12-punctata</i> , 12 spotted	
<i>Bruchus rufimanus</i> , European		<i>Diabrotica</i>	315
bean weevil.....	279	<i>Phytonomus punctatus</i> , fungus	
<i>Bruchus lentis</i> , lentil weevil....	285	infesting it.....	315
<i>Conotrachelus nenuphar</i> , plum		<i>Monarthrum mali</i> , apple tree	
curculio.....	288	bark beetle.....	316
<i>Cicada septendecim</i> , periodical		<i>Aphis brassicae</i> , cabbage aphid, 317	
<i>Cicada</i>	296	? <i>Myrmeleon immaculatus</i> , a	
Brief notes on various insects....	302	strange habitat for the larva..	318
<i>Ocnaria</i> [<i>Porthetria</i>] <i>dispar</i> , gypsy		<i>Dendroleon obsoletum</i> , a climbing	
moth.....	302	ant lion.....	319
<i>Spilosoma virginica</i> , yellow woolly		Injurious arthropods.....	321
bear.....	304	<i>Bryobia pratensis</i> , clover mite... 321	
<i>Thyridopteryx ephemeræformis</i> ,		<i>Cermatia</i> [<i>Scutigera</i>] <i>forceps</i> —a	
bag worm.....	306	household centipede.....	324

Appendix

(A) Entomological contributions.....	331
Insects of the past year and progress in insect studies.....	331
Late experiences with insects injurious to the orchard and garden.....	342
(B) List of publications of the entomologist.....	357
(C) Contributions to the department.....	381
General index.....	385

Cluster flies—*Pollenia rudis*. (Country gentleman. May 5, 1892. 57:358¹¹)

The fly identified, its habits, features, and remedies for it given.

Slugs on pear trees. (Country gentleman. May 19, 1892. 57:387²⁶)

An attack on pear trees is recognized as that of the pear tree slug, *Eriocampa cerasi* Peck [*Eriocampoides limacina* Retz.], and remedies given.

Cherry tree aphid on the wild goose plum. (Country gentleman. May 26, 1892. 57:407⁴⁵)

Identifies *Myzus cerasi* Fabr. on the wild goose plum, and states that the species on the burning bush was probably *Aphis rumicis* Linn.

Scurfy bark louse. (Country gentleman. June 9, 1892. 57:458¹¹)

Identifies *Chionaspis furfurus* Fitch and gives several remedies.

Harlequin cabbage bug. (Country gentleman. June 9, 1892. 57:458¹⁹)

General account of *Murgantia histrionica* Hahn with remedies.

Pear tree Psylla. (Science. June 17, 1892. 19:343-44)

Notifies injuries to pear trees by *Psylla pyri* [*pyricola*] and *Diplosis pyrivora*.

Apple tree tent caterpillar. (Country gentleman. June 23, 1892. 57:492¹¹)

Gives remedies for *Clisiocampa americana* Fabr.

Aster and lily pests. (Country gentleman. June 23, 1892. 57:492¹⁵)

Injuries attributed to *Aphis middletonii* and thousand legged worms.

Cow horn fly. (Country gentleman. June 30, 1892. 57:501²³)

The spread of *Haematobia serrata* is noticed and remedies given.

Meal worm—*Tenebrio obscurus*. (Country gentleman. June 30, 1892. 57:501²⁸)

Notifies the American meal worm, *Tenebrio obscurus* Fabr., and the European, *T. molitor*, with remedies.

Pear leaf blister. (Country gentleman. June 30, 1892. 57:504²⁵)

Identifies the pear leaf blister mite, *Phytoptus pyri*, and gives remedies.

Injuries to a maple tree. (Country gentleman. July 21, 1892. 57:552²⁷)

Identifies the maple tree borer, *Glycobius* [*Plagionotus*] *speciosus* and gives remedies.

Cauliflower pest. (Country gentleman. Aug. 11, 1892. 57:600³³)

Pieris rapae is identified as injurious to the cauliflower and remedies given.

Pear eating beetle. (Country gentleman. Sep. 8, 1892. 57:667²⁸)

Brief notice of *Euphoria inda* Linn. injuring pears.

Rose leaf caterpillar. (Country gentleman. Sep. 8, 1892. 57:667³⁵)

Records *Parasa chloris* H.-S. on rose leaves.

- Strawberry root grub. (Country gentleman. Sep. 8, 1892. 57:667³⁷)
Gives remedies for the white grub infesting strawberry roots.
- Black blister beetle. (Country gentleman. Sep. 15, 1892. 57:689³²)
Food plants and remedies given for *Epicauta pennsylvanica* De Geer.
- Hag moth caterpillar. (Country gentleman. Sep. 22, 1892. 57:709³⁷)
Peculiar features of the larva of *Phobetron pithecium* are given.
- Remedy for the army worm. (Country gentleman. Oct. 6, 1892. 57:750³³)
Recommends ditching, barriers, poisoning strips, etc.
- Weevil in a granary. (Country gentleman. Oct. 6, 1892. 57:750³⁵)
Describes manner of using bisulfid of carbon.
- Spotted horn bug. (Country gentleman. Oct. 13, 1892. 57:767³⁷)
Records injuries by *Dynastes tityus* Linn. to ripe pears.
- Cabbage worms. (Country gentleman. Oct. 13, 1892. 57:767⁴²)
Recommends sprinkling with corn meal.
- Tent caterpillar. (Country gentleman. Oct. 13, 1892. 57:767⁴³)
Gives best remedies for this insect, *Clisiocampa americana*.
- Kerosene emulsion. (Country gentleman. Oct. 13, 1892. 57:767⁴⁵)
Directions for preparing the emulsion are given.
- Will the cow horn fly remain with us? (Country gentleman. Oct. 13, 1892. 57:769⁴²)
Haematobia serrata is no more injurious in this state than *Stomoxys calcitrans*.
- Thrips attack on cabbage. (Country gentleman. Oct. 27, 1892. 57:809²⁷)
Records an attack on cabbage by a species of *Thrips* [probably *T. tabaci*].
- Tischeria apple leaf miner. (Country gentleman. Oct. 27, 1892. 57:809³⁶)
General notice of *Tischeria malifoliella* Clem. with remedies.
- Distribution of the pear Psylla. (Country gentleman. Nov. 3, 1892. 57:831¹⁸)
Introduction and known distribution of *Psylla pyricola*.
- Cow horn fly in New York. (Country gentleman. Nov. 10, 1892. 57:847¹²)
Gives distribution in this state of *Haematobia serrata*.
- Apple tree Bucculatrix. (Country gentleman. Dec. 22, 1892. 57:967²⁴)
Identifies *Bucculatrix pomifoliella*.

How to prevent the ravages of the cabbage maggot. (Gardening. Feb. 1, 1893. 1: 155, fig. 1-3)

Names a number of remedies and preventives.

A destructive elm tree bark borer. (Garden and forest. Feb. 15, 1893. 6: 76)

A general notice of *Saperda tridentata* Oliv. in the white elm and giving remedies.

Plant lice. (Country gentleman. Mar. 9, 1893. 58: 186³⁷)

Methods of fighting root infesting aphids.

Angoumois moth — *Sitotroga cerealella*. (Country gentleman. Mar. 9, 1893. 58: 188⁴⁴–89²⁵)

General account of its history, distribution, injuries and remedies.

Report of the committee on entomology. (Western New York horticultural society. Proceedings, January 1893. p. 28–43. Also, separate with cover and title, Mar. 21, 1893. 16 p.) [Read before the society at its annual meeting, Jan. 26, 1893]

Notices the following: Destructive shade tree pests, gypsy moth, *Oeneria* [*Porthetria*] *dispar*, *Zeuzera pyrina*, and elm borer, *Saperda tridentata*.

Periodical cicada. (Country gentleman. Mar. 23, 1893. 58: 226³⁵)

Predicts the appearance of *Cicada septendecim* in 1894, and gives means of preventing serious injury.

Mites attacking mushrooms. (Country gentleman. Mar. 23, 1893. 58: 228⁴⁶–29¹⁴)

Notices several species of mites, among them being *Tyroglyphus rostroser-ratus* and *Bryobia pratensis*.

Flower crickets and apple twigs. (Country gentleman. Mar. 30, 1893. 58: 246²⁴)

Comments on the oviposition of *Oecanthus niveus* and *Oecanthus fasciatus*.

Onion fly—*Phorbia ceparum*. (Country gentleman. Mar. 30, 1893. 58: 246²⁸)

Onion fly compared with the cabbage fly, *Anthomyia* [*Phorbia*] *brassicae* Bouché and remedies given.

Miss Ormerod's report. (Country gentleman. Ap. 13, 1893. 58: 289²¹)

Brief review of Miss Ormerod's 16th report.

Myriapods and mites in scabby potatoes. (Country gentleman. Ap. 27, 1893. 58: 329¹²)

Records injuries to potatoes by a 'thousand legged worm,' *Julus caeruleo-cinctus* Wood, and *Rhizoglyphus phylloxerae*. The scab is caused by a fungus, *Oospora scabies* Thaxter.

Spraying for codling moth. (Country gentleman. Ap. 27, 1893. 58: 329²⁶)

Describes the method of spraying for this insect.

[Insects on lettuce and cabbage] (Gardening, May 1, 1893. 1: 264, col. 2)

Notices *Plusia simplex* on lettuce, *Plusia brassicae* and *Aphis brassicae* on cabbage.

Clover hay worm—*Pyrallis costalis* Fabr. (Country gentleman. May 4, 1893. 58: 349¹⁶)

General account of the life history, ravages and remedies.

When to spray. (Country gentleman. May 11, 1893. 58: 368²⁵)

Gives directions for preparing and applying insecticides for a number of common insects.

Clover leaf weevil. (Country gentleman. May 18, 1893. 58: 386⁴³–87¹¹)

General notice of *Phytonomus punctatus*, giving its introduction, distribution and remedies.

Apple tree borer. (Country gentleman. May 18, 1893. 58: 387¹¹)

Identifies *Saperda candida* Fabr., refers to *Chrysobothris femorata* Fabr., and gives remedies.

Bud worm. (Country gentleman. May 18, 1893. 58: 387¹⁶)

Recommends spraying with paris green for *Tmetocera ocellana*.

Danger to apple buds. (New York homestead. May 25, 1893. 27: 236, col. 4)

Tmetocera ocellana received from Lancaster, N. Y., remedies are given.

Pear midge. (Albany evening journal. May 30, 1893. p. 6, col. 5)

Records appearance of *Diplosis pyrivora* in Columbia and Greene counties in this state.

Invasion of plant lice in New York. (American farmer. June 1, 1893. 74: 1, col. 4)

Unusual abundance of the apple tree aphid, *Aphis mali*, and remedies for it and the hop aphid.

Apple tree aphid. (Country gentleman. June 8, 1893. 58: 449²³)

Brief notice of *Aphis mali*.

Some potato pests. (Country gentleman. June 8, 1893. 58: 449²⁷)

Treats of injuries to potatoes by the cucumber flea beetle, *Crepidodera* [*Epitrix*] *cucumeris* and *Julus caeruleocinctus*.

Greenhouse pest. (Gardening. June 15, 1893. 1: 313, col. 1–3)

General account of species of *Sciara* infesting greenhouses and mushroom beds [subsequently described as *Sciara coprophila* and *S. caldaria*].

- Apple tree aphid. (American farmer. June 15, 1893. 74:8, col. 6)
Impossible to predict injury by aphids. Gives remedies for plant lice and for *Tmetocera ocellana*.
- Immense swarms of a butterfly. (New York homestead. June 22, 1893. 27:273, col. 1-2)
Describes the swarming habit of the milk weed butterfly, *Danaus archippus* Fabr. [*Anosia plexippus* Linn.]
- New peach insect. (Country gentleman. June 29, 1893. 58:508²⁴)
Records injuries to peaches by a plant bug, *Pentatoma juniperina* Linn.
- Caterpillar on rye. (Country gentleman. June 29, 1893. 58:508²⁸)
Identifies the larva of *Leucania albilinea* Hübn. on rye and mentions the army worm, *Leucania unipuncta*.
- Hellgramite fly. (Country gentleman. June 29, 1893. 58:508³²)
Describes the pupa of *Corydalis cornuta* Linn. and gives its habits and transformations briefly.
- Ants on fruit trees. (Country gentleman. July 6, 1893. 58:523¹²)
Camponotus herculeanus Linn. and *Cremastogaster cerasi* Fitch are briefly noticed.
- New grape vine pests. (Country gentleman. July 6, 1893. 58:523¹⁷)
Records severe ravages by *Anomala marginata* and gives remedies.
- Ants on peonies. (Country gentleman. July 6, 1893. 58:524¹⁸)
Ants are probably merely drawn to the flowers for the purpose of feeding on the sweet secretion of the buds.
- Three lined leaf beetle. (Country gentleman. July 6, 1893. 58:524²⁵)
Gives the destructive habits of *Lema trilineata* in gardens, specially to potatoes.
- Useful beetle. (Country gentleman. July 6, 1893. 58:524³²)
Describes *Calosoma sycophanta* of Europe and compares it with our *Calosoma scrutator*, and gives their beneficial habits.
- [Angoumois moth] (Orange county farmer. July 6, 1893. 12:4, col. 5)
Identifies *Sitotroga cerealella* Oliv. and gives remedies.
- [Wheat midge in central New York] (Albany evening journal. July 10, 1893. p. 8, col. 9)
Notices the presence of the insect [*Diplosis tritici*] and its earlier ravages.
- Wheat head army worm. (Country gentleman. July 13, 1893. 58:539²⁴)
Brief account of *Leucania albilinea* injuring timothy.
- Zebra caterpillar. (Country gentleman. July 13, 1893. 58:539²⁹)
Mamestra picta injuring the leaves and pods of peas, its feeding habits and remedies.

Wheat weevil. (Country gentleman. July 13, 1893. 58:540²⁴)

Gives remedy for weevils in wheat.

Ground beetle. (Country gentleman. July 13, 1893. 58:540²⁶)

States that larvae of ground beetles are most probably not injurious to roots of watermelons.

Maple tree borer. (Country gentleman. July 20, 1893. 58:557¹⁸)

Glycobius [*Plagionotus*] *speciosus* is identified and remedies indicated.

Insect on wistaria. (Country gentleman. July 20, 1893. 58:557²³)

Describes the two spotted tree hopper, *Enchenopa binotata* Say, and gives remedies.

Elm leaf beetle. (Country gentleman. July 20, 1893. 58:558¹⁶)

Beetle is identified and a number of references given.

Water beetle. (Country gentleman. July 20, 1893. 58:558²⁵)

Identifies *Dytiscus harrisii* Kirby and gives habits.

Silk worm moth. (Country gentleman. July 20, 1893. 58:558²⁷)

Brief popular notice of *Telea polyphemus* Cramer.

Woolly plant louse. (Country gentleman. July 20, 1893. 58:558³³)

The rather rare *Pemphigus acerifolii* Riley, is identified on maple, and remedies given.

Walnut span worm. (Gardening. Aug. 15, 1893. 1:377, col. 2)

A 'brown worm' injuring black walnut trees in Kansas City is probably *Boarmia* [*Coniodes*] *plumigeraria* Hulst.

How to control the squash bug. (Gardening. Aug. 15, 1893. 1:377-78, col. 3, 1)

Trapping the adults, *Anasa tristis*, destroying the young and eggs recommended.

Humming bird moth. (Country gentleman. Aug. 17, 1893. 58:634¹⁸)

Gives the characters of *Sesia uniformis* [*Hemaris thysbe* var. *ruficaudus*].

Bag worm. (Country gentleman. Aug. 17, 1893. 58:634²⁵)

Bag worm or basket worm, *Thyridopteryx ephemeraeformis*, is identified.

Grain weevil. (Country gentleman. Aug. 31, 1893. 58:674³³)

Describes the method of treating infested wheat.

Insects of the past year and progress in insect studies. [Read before the Albany institute Ap. 15, 1890] (Albany institute. Transactions. [August] 1893. 12:227-40)

Treats of the grain aphid, *Siphonophora avenae* [*Nectarophora granaria*], hop aphid, *Phorodon humuli*, apple tree tent caterpillar, *Clisiocampa americana*, white marked tussock moth, *Orgyia* [*Notolophus*] *leucostigma*, forest tent caterpillar, *Clisiocampa sylvatica* [*disstria*], *Otiorynchus ovatus* and *Silvanus surinamensis*.

Cabbage aphid. (Country gentleman. Sep. 14, 1893. 58:717¹³)

Aphis brassicae Linn. difficult to control, insecticides recommended.

Beetle destroying strawberry plants. (Albany evening journal. Sep. 27, 1893. p. 1, col. 6)

Records injuries to strawberry plants by *Paria aterrima* [*Typophorus canellus*].

Plugging trees with sulfur. (Country gentleman. Sep. 28, 1893. 58:753³⁴)

Exposes the worthlessness of the 'sulfur cure' and cites experiment by Dr Fitch.

Black blister beetle attack on asters. (Gardening. Oct. 1, 1893. 2:28, col. 3)

Records injuries to asters by *Epicauta pennsylvanica* DeGeer, and gives remedies.

Clover seed caterpillar. (Country gentleman. Oct. 5, 1893. 58:773¹⁶)

A general notice of *Grapholitha interstinctana* Clem., giving life history and remedies.

Grasshopper plague in New York. (Country gentleman. Oct. 12, 1893. 58:793¹⁸)

A general account of *Melanoplus femur-rubrum* and *M. atlantis*, with notice of their operations, associated species and remedies.

Potato beetle killer. (Orange county farmer. Oct. 19, 1893. 13:1, col. 7)

Beetle sent as 'the new potato bug killer,' is identified as *Lebia grandis*.

Insect pests. (Gardening. Nov. 15, 1893. 2:77)

In too poor condition to identify, one referred with doubt to *Sphinx duperarum*.

On arsenical spraying of fruit trees while in blossom. (Insect life. 1893. 6:181-85)

Not proven [since demonstrated] that death of bees may be due to spraying with arsenicals. Recommends caution.

8th report on the injurious and other insects of the state of New York for the year 1891. Albany, University of the State of New York. 1893. [Issued Feb. 7, 1894] 218 p., 53 fig. (New York state museum, 45th annual report for the year 1891. Albany, University of the State of New York. 1892. [Issued in Feb. 1894] p. 103-320, fig. 53)

Contents

	PAGE		PAGE
Introductory.....	121	<i>Pulvinaria innumerabilis</i> , maple	
Injurious insects.....	129	tree scale insect.....	177
<i>Synchlora glaucaria</i> , raspberry		<i>Gryllus luctuosus</i> , common black	
geometer.....	129	cricket.....	179
<i>Bucculatrix canadensisella</i> , birch		<i>Trombidium locustarum</i> , locust	
leaf <i>Bucculatrix</i>	133	mite.....	179
<i>Diplosis pyrivora</i> , pear midge... 140		Insect attacks—their remedies and	
<i>Clastoptera obtusa</i> , obtuse Clas-		preventives.....	181
toptera.....	152	Remedies for the peach tree borer 181	
<i>Clastoptera pini</i> [<i>obtusa</i>], pine		An ichneumonized caterpillar—	
<i>Clastoptera</i>	153	interesting case of parasitism. 186	
<i>Chauliodes pectinicornis</i> , comb		<i>Agrotis ypsilon</i> Rott., a new onion	
horned fish fly.....	155	pest.....	188
<i>Corydalus cornuta</i> , horned Cory-		<i>Gortyna</i> [<i>Hydroecia</i>] <i>nitela</i> , stalk	
dalis.....	159	borer, as an external feeder.. 191	
Notes on various insects.....	163	Cow horn fly in New York..... 192	
<i>Thalessa lunator</i> , lunate long		Wire worms and remedies for	
sting.....	163	them.....	197
<i>Janus flaviventris</i> [<i>integer</i>], cur-		Rose bug and how to kill it.... 200	
rant stem girdler.....	166	<i>Glycobius</i> [<i>Plagionotus</i>] <i>specio-</i>	
<i>Nematus</i> [<i>Lygaconematus</i>] <i>erich-</i>		sus Say. maple tree borer 202	
sonii, larch saw fly.....	168	<i>Anasa tristis</i> De Geer, squash	
<i>Feniseca tarquinius</i> , little orange		bug.....	205
butterfly.....	169	Hop vine aphid and remedies... 207	
<i>Eudryas</i> [<i>Euthisanotia</i>] <i>grata</i> ,		<i>Aphis cucumeris</i> Forbes [<i>gossy-</i>	
beautiful wood nymph.....	170	pii], melon aphid.....	210
<i>Scoliopteryx libatrix</i> , scallop		<i>Aphis cucumeris</i> [<i>gossypii</i>] and	
wing.....	171	<i>Corimelaena pulicaria</i> , as melon	
<i>Exechia</i> species?, a fungus gnat. 172		and strawberry pests.....	212
<i>Telephorus</i> ? <i>bilineatus</i> , occurring		Scale insects on camellia and	
on snow.....	172	oleander.....	214
<i>Lachnosterna fusca</i> , white grub of		Grape vine scale insect, <i>Leca-</i>	
the May beetle.....	174	nium sp.?.....	215
<i>Cyllene pictus</i> , hickory borer.... 175		Apple tree insects of early	
<i>Tenebrio molitor</i> , meal worm.... 176		spring.....	216
		Some injurious insects of 1890 .. 221	

Appendix

(A) Entomological addresses.....	227
Some injurious insects of Massachusetts	227
Our insect enemies and how to meet them.....	258
(B) Publications of the entomologist during 1891	278
(C) Publications of the entomologist for 1875 and 1876.....	290
(D) Contributions to the department.....	296
(E) Classified list of insects noticed in this report	302
General index.....	304

Grubs destroying Mermet roses. (Florist's exchange. Feb. 10, 1894. 6:176, col. 1)

Grubs working at roots of roses are probably a species of *Lachnosterna*. Remedies are given.

9th report on the injurious and other insects of the state of New York, for the year 1892. Albany, University of the State of New York. 1893. [Issued Mar. 2, 1894] 211 p., 34 fig. (New York state museum, 46th report, for the year 1892. Albany, University of the State of New York. 1892. [Issued in March, 1894] p. 289-495, fig 34)

Contents

	PAGE		PAGE
Transmittal.....	293	Notes on various insects, (contin'd)	
General notes for the year.....	295	<i>Pissodes strobi</i> Peck, white pine	
Injurious insects:		weevil	344
<i>Anthrenus scrophulariae</i> and <i>At-</i>		<i>Myzus cerasi</i> Fabr., cherry tree	
<i>tagenus piceus</i> , two carpet bee-		aphis.....	345
tles.....	299	<i>Pemphigus tessellata</i> Fitch, alder	
<i>Tenebrio obscurus</i> Fabr., Ameri-		blight aphis	346
can meal worm	307	<i>Phylloxera vitifoliae</i> Fitch, grape	
<i>Pollenia rudis</i> Fabr., cluster		vine Phylloxera	347
fly	309	<i>Crangonyx mucronatus</i> Forbes, a	
<i>Murgantia histrionica</i> Hahn, har-		blind shrimp in wells	347
lequin cabbage bug	315	Insectivorous birds for protec-	
<i>Psylla pyricola</i> Foerster, pear		tion	349
tree psylla	317	Insect attacks:	
<i>Chortophaga viridifasciata</i> De		Resistance of fleas to insecticides	352
Geer, green striped locust....	330	White grubs injuring nursery	
Notes on various insects, etc.		stock	353
<i>Eriocampa cerasi</i> Peck, [<i>Erio-</i>		White grub eaten by the robin..	356
campoides <i>limacina</i> Retz.],		<i>Elaphidion parallelum</i> Newm.	
cherry tree or pear tree slug ..	335	[<i>villosum</i> Fabr.], maple tree	
<i>Papilio</i> [<i>Heracles</i>] <i>eresphontes</i>		pruner	357
Cramer, yellow banded swal-		<i>Diabrotica vittata</i> Fabr., striped	
low tail	336	cucumber beetle	361
<i>Podosesia syringae</i> Harris,		<i>Craponius inaequalis</i> Say, grape	
syringa borer	338	cureulio	364
<i>Carvocapsa pomonella</i> Linn., cod-		<i>Phlocotribus liminaris</i> Harris,	
ling moth.....	338	peach bark scolytus.....	365
<i>Dynastes tityus</i> Linn., as a fruit		An unrecognized attack on peas	368
eater	342	Plum tree aphis, and brown rot	368
<i>Crisobris asparagi</i> Linn., aspara-		<i>Myzus ribis</i> Linn., currant aphis	370
gus beetle	342	Aphids and myriapods as aster	
<i>Asytia frontalis</i> Fabr., injuring		and lily pests	371
gooseberry foliage.....	343	Some apple tree insects	372
<i>Chauliognathus pennsylvanicus</i> ,		Beet insects	374
Pennsylvania soldier beetle ..	344	Diseased Austrian pines.....	376

Appendix

	PAGE
(A) Catalogue of the known Homoptera of the state of New York in 1851...	381
(B) Entomological addresses	414
(C) List of publications of the entomologist	439
(D) Publications of the entomologist during the years 1870-1874	446
(E) Contributions to the department	461
(F) Classified list of insects noticed in the report.....	465
General index	467

Maple tree scale insect. (Gardening. Mar. 15, 1894. 2:206)

In the absence of examples the scale is identified as probably *Pulvinaria innumerabilis* Rathv. and remedies given.

Rose slug. (Gardening. Ap. 1, 1894. 2:230)

Gives remedies for common rose slug, *Monostegia rosae*, mentions bristly rose worm, *Cladius pectinicornis* Four., and curled rose worm, *Emphytus cinctus* Linn.

White worms at the roots of house plants. (Gardening. Ap. 15, 1894. 2:257, col. 2)

Recommends strong mustard water, tobacco or pyrethrum water.

Apple maggot — *Trypeta pomonella*. (Country gentleman. May 3, 1894. 59:349¹⁸)

Identifies the insect and gives remedies.

The foe of shade trees. (Albany evening journal. May 7, 1894)

Notice of the elm borer, *Saperda tridentata*, giving remedies.

Cotton wood beetle. (Syracuse union. May 9, 1894. p. 2, col. 1)

Identifies *Lina scripta* Fabr., giving its earlier history and remedies.

Insect that kills the pine tree borers. (Gardening. May 15, 1894. 2:292, col. 2)

Notifies the introduction of *Clerus formicarius* for the purpose of preying on *Dendroctonus frontalis*.

Probably white grubs. (Country gentleman. May 17, 1894. 59:386²²)

Recommends kerosene emulsion for white grubs in a lawn.

Periodical cicada, or the 17 year locust. (Issued as a circular of four pages. Albany. June 19, 1894)

Brief general account of *Cicada septendecim* and *C. tredecim*.

Pear leaf blister mite. (Country gentleman. June 21, 1894. 59:468⁴¹)

Identifies an attack by *Phytoptus pyri* and gives remedies.

Chestnut weevil. (Country gentleman. July 5, 1894. 59:504¹⁶)

The 'chestnut worm' is identified as probably *Balaninus caryatrypes* [*proboscideus*].

Rose bugs. (Country gentleman. July 5, 1894. 59:504¹⁷)

Recommends collecting by mechanical devices as described by Dr Smith.

Friendly insects. (Country gentleman. July 5, 1894. 59:504²²)

Identifies the twice stabbed lady bird, *Chilocorus birulnerus* Muls., and describes its beneficial habits.

Hellgramite fly. (Country gentleman. July 12, 1894. 59:520²³)

Corydalis cornuta identified. Its larva is known to fishermen as 'the dobson.'

Plant lice at the roots of asters, etc. (Gardening. July 15, 1894. 2:358, col. 1)

Root lice attacking asters, chrysanthemums and other plants are probably *Aphis middletonii* Thos., several remedies are given.

Ants in strawberry beds. (Country gentleman. Aug. 2, 1894. 59:568¹³)

Recommends bisulfid of carbon for the destruction of their nests or hills.

Grape vine caterpillar. (Country gentleman. Aug. 2, 1894. 59:568¹⁶)

Identifies *Thyreus abbotii* and refers one 'looking like a snake with the head of a frog' to the Geometridae.

Enemies of the potato beetle. (Country gentleman. Aug. 2, 1894. 59:568²⁵)

States that there are many enemies of the Colorado potato beetle.

Elm leaf beetle. (Country gentleman. Aug. 16, 1894. 59:600²⁵)

Spraying the foliage with paris green or london purple is recommended.

Above ground buildings of the 17 year cicada. (New York daily tribune. Aug. 21, 1894. p. 12, col. 2)

Brief abstract of a paper read before the American association for the advancement of science.

Worm destroying canna leaves. (Florist's exchange. Sep. 8, 1894. 6:788)

Insects are identified as *Pamphila* [*Calpodes*] *ethlius* and as probably the common *Spilosoma* [*Pyrrehartia*] *isabella*.

Sumac galls. (Country gentleman. Sep. 20, 1894. 59:686¹⁴)

Brief notice of an aphid, *Melaphis rhois* Fitch, and its galls on *Rhus glabra* and *R. typhina*.

Box elder plant bug. (Country gentleman. Sep. 27, 1894. 59:699²⁶)

Insect on the city sidewalks of Shenandoah, Iowa, is identified from the description as *Leptocoris trivittatus* Say.

Beetle feeding on green corn. (Country gentleman. Sep. 27, 1894. 59:701²⁴)

Beetle, *Euphoria inda* Linn., feeding on the tips of standing sweet corn, is noticed briefly.

Muskmelon borers at the south. (Country gentleman. Oct. 4, 1894. 59:721²⁶)

General account of the two melon boring caterpillars in the southern states, *Eudiotis* [*Margaronia*] *nitidalis* Cram. and *E.* [*Margaronia*] *hyalinata* Linn.

Pear rust. (Country gentleman. Oct. 4, 1894. 59:722¹⁷)

Pear shows a rust which may have been caused by a mite, possibly *Phytoptus pyri*.

'Pear rust' — cause unknown. (Country gentleman. Oct. 25, 1894. 59:773³¹)

The above is probably but an unusual development of its natural rust.

Indian Cetonia. (Gardening. Nov. 1, 1894. 3:55-56, col. 3, 1)

Gives the habits of *Euryomia* [*Euphoria*] *inda* and states that the reported injury to the bark of young pear trees is confirmatory of an earlier statement.

Injurious beetles. (Gardening. Nov. 1, 1894. 3:56, col. 1-2)

Brief notice of *Euryomia* [*Euphoria*] *inda*, *Cyllene robiniae* Forster and *Glycobius* [*Plagionotus*] *speciosus* Say.

Maple tree borer. (Gardening. Nov. 1, 1894. 3:56, col. 2)

Identifies the pupal case of *Aegeria* [*Sesia*] *acerni* Clem. and gives remedies.

Squash bug. (Gardening. November 1, 1894. 3:56, col. 2, 3)

Gives several remedies for the squash bug, *Anasa tristis* De Geer.

Report of the state entomologist to the regents of the University of the State of New York, for the year 1893. Albany. November 1894. 26 p.

Contents

	PAGE		PAGE
Transmittal	177	The destructive wheat midge in western New York.....	183
Increasing interest in the work of the department.....	178	Remarkable abundance of aphids or plant lice.....	183
Publications of the entomologist.	178	Grasshopper plague in western New York.....	186
Additions to the state collection..	179	Insect defoliators of shade and fruit trees.....	188
Collections made in the Adirondack mountains.....	179		
Operations against the gypsy moth in Massachusetts.....	180		

Appendix

Index to report for 1886.....	193
-------------------------------	-----

San José scale. (Albany evening journal. Nov. 7, 1894. p. 6, col. 5)

Notes the finding of *Aspidiotus perniciosus* in a pear orchard at Kinderhook N. Y., and gives its distribution.

'North Dakota's new bug.' (Country gentleman. Nov. 22, 1894. 59: 841²⁶)

Records *Leptocoris trivittatus* Say from Jamestown, N. D., with a brief notice of the insect.

Experiment station work on Long Island. (American agriculturist. Dec. 1, 1894. 54: 404, col. 1)

Brief notice of the important work done on Long Island.

Grubs in manure. (Country gentleman. Dec. 27, 1894. 59: 931⁴²)

White grubs in manure are identified as those of *Ligyrrus relictus*.

Ants in a lawn. (Country gentleman. Jan. 3, 1895. 60: 91¹³)

Gives several means of destroying ants in nests.

Apple tree aphid. (Country gentleman. Jan. 10, 1895. 60: 271¹¹)

Indicates proper remedies for *Aphis mali* and notices the pear Psylla.

Apple tree bark louse. (Country gentleman. Jan. 10, 1895. 60: 272²³)

Recommends kerosene emulsion for *Mytilaspis pomorum* and gives its many food plants.

Colorado beetles. (Country gentleman. Jan. 10, 1895. 60: 302²³)

Gives dates of appearance of *Doryphora 10-lineata* in several localities in this state.

Attacking scale insects. (Country gentleman. Feb. 7, 1895. 60: 1082²³)

Recommends winter treatment with a whale oil soap solution.

Garden slugs. (Country gentleman. Feb. 21, 1895. 60: 1471¹³)

Best remedy is freshly slacked lime or lime water applied to them while feeding during morning or evening.

Rhinoceros beetle. (Country gentleman. Mar. 21, 1895. 60: 2301¹⁷)

Identifies *Dynastes tityus* and gives its habits.

Bounty on the English sparrow. (Albany evening journal. Mar. 21, 1895. p. 8, col. 4, 23 cm; Scientific american. Ap. 27, 1895)

An argument against a bounty on this bird, since it would tend to drive it into the country.

Vermicides [insecticides for vermin] (Country gentleman. Ap. 4, 1895. 60: 2664²)

Recommends Buchan's carbolic soap and Little's chemical fluid for killing vermin on cattle, sheep and lambs.

English sparrow. (Country gentleman. Ap. 11, 1895. 60: 2852²³)

Substantially the same as in the *Albany evening journal*, Mar. 21, 1895, of which an abstract is given above.

Some destructive shade tree pests. (State of New York — Department of public instruction, arbor day manual. May 3, 1895. Albany, Ap. 6, 1895. p. 13-17, fig. 6)

Notices elm leaf beetle, *Galerucella xanthomelaena* [luteola], *Orgyia tussock* caterpillar, *Orgyia* [*Notolophus*] *leucostigma*, leopard moth, *Zeuzera pyrina*, maple tree scale, *Pulvinaria innumerabilis*.

Bad scale on currant bushes. (Gardening. May 15, 1895. 3:263, col. 2)

Identifies *Aspidiotus ancylus* Putnam on currant bushes and gives remedy.

Currant aphid. (Gardening. May 15, 1895. 3:263, col. 3)

Gives remedies and preventives for *Myzus ribis* Linn.

Bean weevil. (Country gentleman. May 16, 1895. 60:389¹⁵)

Describes methods of destroying weevils in beans.

Bean weevil. (Country gentleman. May 23, 1895. 60:408³²)

Eggs deposited on pods and no preventive of this is known.

Millepedes and wire worms. (Country gentleman. May 30, 1895. 60:423¹⁶)

Indicates several preventives and remedies.

Carpet eating insects. (Country gentleman. May 30, 1895. 60:423³²)

Notices *Tinea pellionella* and *Attagenus piceus*, the black carpet beetle, with remedies.

Plum tree aphid. (Gardening. June 1, 1895. 3:281, col. 3)

Identifies an attack as due probably to *Aphis prunifoliae*, and gives remedies.

Cut worms. (Country gentleman. June 6, 1895. 60:440³²)

As there are 50 or more species, no general remedy can be given for them, and reference is made to Museum bulletin 6, 'Cut worms.'

Manual for the study of insects. (Nation. June 6, 1895. No. 1562, 60:451, col. 1, 2, 3.)

Review of the above named volume by Prof. J. H. Comstock and Anna Botsford Comstock, O. 701 p., 6 pl. and 797 fig.

San José scale, *Aspidiotus perniciosus*, and some other destructive scale insects of the state of New York. (New York state museum. Bulletin vol. 3, no. 13, April 1895. Published June 11, 1895, 44p., 7 pl.)

As introductory, 'What scale insects are,' is told. The destructive New York scale insects noticed are: apple tree bark louse; scurfy barklouse; pine leaf scale insect; white scale; maple tree scale insect; and plum tree scale insect. Of the San José scale is given: Introduction and spread; Occurrence in the eastern United States; Investigations by the U. S. Department of agriculture; San José scale in New York; San José scale on Long Island; San José scale in New Jersey; The two infested New Jersey nurseries; San

José scale in Ohio; Description of the scale; Description of the insect; Its life history; its food plants; Spread of the insect; Protection from infested stock; Proposed legislation; Remedies; Bibliography; Plates and their explanations.

Asparagus beetle goes north. (Country gentleman. June 13, 1895. 60:455¹³)

Remarks on the northern extension of *Crioceris asparagi* and its probable limitation by the upper austral life zone.

Pear midge. (Country gentleman. June 13, 1895. 60:456²⁶)

Records presence of *Diplosis pyrivora* at Millbrook, N. Y., and gives remedies.

Pear midge again. (Country gentleman. June 20, 1895. 60:472¹⁸)

Diplosis pyrivora is received from Poughkeepsie, N. Y.

New maple tree insect. (Country gentleman. June 27, 1895. 60:484⁴⁸-85¹⁴)

Larvae of a Tortricid moth, burrowing the stems of maple leaves are those of *Steganoptycha claypolliana*.

Plum tree scale. (Country gentleman. June 27, 1895. 60:485¹⁵)

Brief notice of *Lecanium juglandifex* Fitch [erroneous reference of *L. prunastri* Fonsc.].

Elm leaf beetle. (Albany evening journal. July 20, 1895. p. 3, col. 1)

Brief general notice of *Galerucella luteola* in Albany.

Elm leaf beetle. (Country gentleman. Aug. 1, 1895. 60:568¹⁴)

Identifies *Galerucella xanthomelaena* [luteola] and gives remedies.

Horn tail borer. (Country gentleman. Aug. 1, 1895. 60:568¹⁷)

Notices briefly *Tremex columba*, *Thalessa atrata* and *T. lunator*.

Orchard insects. (Country gentleman. Aug. 1, 1895. 60:568²⁶)

No satisfactory reply can be given to such a general inquiry.

Black peach aphid. (Country gentleman. Aug. 8, 1895. 60:583²¹)

Destructiveness of *Aphis persicae-niger* [prunicola Kalt.] its life history and remedies.

Sugar maple borer. (Country gentleman. Aug. 8, 1895. 60:583²⁶)

Identifies *Glycobius* [Plagionotus] speciosus and gives remedies and preventives.

New scale insect. (Country gentleman. Aug. 8, 1895. 60:585²³)

Scale from Loudonville, N. Y., on the Camperdown elm, is *Gossyparia ulmi*.

Harlequin cabbage bug. (Country gentleman. Aug. 15, 1895. 60:595²⁵)

Injuries by *Murgantia histrionica*, its spread and remedies.

Carpet beetle. Country gentleman. Aug. 15, 1895. 60:599³¹)

Brief notice of *Anthrenus scrophulariae*, giving its habits, life history and remedies.

A pugnacious caterpillar. (Gardening. Aug. 15, 1895. 3:364, col. 3)

Describes the larva of *Thyreus abbotii*, and gives its habits.

Insect attack on maples. (Gardening. Aug. 15, 1895. 3:364, col. 3)

Attack on center shoots of cut leaf maples can not be identified without examples.

Insect gall. (Gardening. Aug. 15, 1895. 3:366, col. 1)

A 'tiny green burr' taken from a sweet briar in Georgetown, Ky., is a gall made by one of the gall flies of the genus *Rhodites*.

Another note of warning [against the elm leaf beetle]. (Albany evening journal. Aug. 20, 1895. p. 8, col. 5)

Records a second brood of *Galerucella luteola* in Albany and gives remedies.

Caterpillars and borers. (Country gentleman. Aug. 29, 1895. 60:632²³)

Gives remedies for apple tree tent caterpillars and borers.

Black blister beetle. (Country gentleman. Aug. 29, 1895. 60:632³⁴)

Insect on china asters is the black blister beetle, *Epicauta pennsylvanica* DeGeer. Remedies are indicated.

Scale insect on osage orange hedge. (Gardening. Sep. 15, 1895. 4:11 col. 3)

Identifies *Pulvinaria innumerabilis* and gives remedies.

To kill red ants in the house. (Gardening. Sep. 15, 1895. 4:12, col. 1)

Gives several remedies for *Monomorium pharaonis*.

A friend, not a foe. (Country gentleman. Sep. 19, 1895. 60:685¹⁵)

Describes the beneficial habits and value of the larva of a lady bug, *Hippodamia convergens*.

Humbug insect cure. (Country gentleman. Sep. 19, 1895. 60:687¹¹)

Exposes the old remedy of plugging trees with sulfur.

Squash bug. (Country gentleman. Sep. 19, 1895. 6:687¹⁶)

Gives best remedy for *Anasa tristis*.

Squash bugs — squash vine borers. (Country gentleman. Oct. 3, 1895. 60:719¹⁶)

Comparative injury to crops by the two insects. Desirability of preventing attack.

Frail children of the air: Excursions into the world of butterflies: by S. H. Scudder. (Nation. Oct. 17, 1895. No. 1581, p. 280-81, col. 3, 1)

Brief notice of the more interesting features of this delightful volume.

Natural history of aquatic insects: by Prof. L. C. Mial, F. R. S. (Nation. Oct. 31, 1895. No. 1583, p. 317-18, col. 3, 1)

Review emphasizing the value of the original matter published in this work.

Box elder plant bug. (Country gentleman. Oct. 31, 1895. 60:786¹⁸)
Identifies *Leptocoris trivittatus* Say from McGregor, Ia.

On the girdling of elm twigs by the larvae of *Orgyia* [*Notolophus*] *leucostigma* and its results. (American naturalist. January 1896. 30:74-75)

Records the peculiar twig girdling habit of the larva.

Wire worms in corn. (Country gentleman. Feb. 20, 1896. 61:144¹²)
Gives several remedies.

Solution for killing worms. (Gardening. Mar. 15, 1896. 4:199²⁴)
Recommends several insecticides for millepedes.

Apple maggot—*Trypeta pomonella*. (Gardening. Ap. 1, 1896. 4:218²⁴)
Brief general account, giving life history and remedies.

Apple maggot. (Country gentleman. Ap. 2, 1896. 61:270³⁶)
Identifies *Trypeta pomonella* and gives proper remedies.

Cheese skipper. (Country gentleman. Ap. 9, 1896. 61:293²²)
Brief general account of the meat skipper, *Piophilæ casei* Linn., giving life history and remedies.

Scale insects. (Gardening. Ap. 15, 1896. 4:234, col. 1)
Notices briefly *Mytilaspis pomorum* and *Chionaspis furfurus* and gives remedies.

Southern corn root worm. (Country gentleman. Ap. 30, 1896. 61:353¹⁷)
General account of 'the 12 spotted Diabrotica,' *D. 12-punctata* Oliv., and the northern corn root worm, *Diabrotica longicornis* Say, giving injuries and remedies.

Thousand legged worms infesting greenhouses. (Gardening. May 1, 1896. 4:251-52, col. 2-3, 1)
General account of a species of millepedes [subsequently referred to *Leptodesmus*], and giving a number of remedies.

Handbook of British lepidoptera. By Edward Meyrick. (Nation. May 14, 1896. 62:385, col. 2-3)
General review of this work.

Elm leaf beetle. (Country gentleman. May 14, 1896. 61:386³³)
Galerucella xanthomelaena [*luteola*] identified from Gaylordsville, Ct.

Harlequin cabbage bug. (Gardening. May 15, 1896. 4:266, col. 2-3, 26 cm)
Murgantia histrionica is identified and its spread over the country noticed.

Plum mite. (Country gentleman. May 21, 1896. 61:406²²)
Galls on a Chickasaw plum are identified as possibly those of *Phytoptus pruni* Amerl.

The 'Fire worm.' (Country gentleman. May 28, 1896. 61:431³⁷)

Records the resistance of the canker worm, *Anisopteryx* [*Paleacrita*] *vernata* Peck, to paris green.

On the girdling of elm twigs by the larvae of *Orgyia* [*Notolophus*] *leucostigma* and its results. (American association for the advancement of science. Proceedings 44th meeting, held at Springfield, Mass., August–September 1895, May 1896, p. 156, 5 cm)

Brief abstract of the paper under the above title was published in the American naturalist, January 1896.

Fruit tree aphids. (Country gentleman. June 11, 1896. 61:466⁸⁷)

Notifies the cherry tree aphid, *Myzus cerasi* Fabr. and one on plum, *Aphis prunifoliae* Fitch, and gives remedies.

[Kill the larvae of the elm leaf beetle.] (Albany evening journal. June 24, 1896, p. 4, col. 4)

Recommends killing the larvae and pupae of *Galerucella luteola* with hot water or kerosene.

[Report on the work of the gypsy moth committee after an examination made in June 1893.] (Gypsy moth, *Porthetria dispar* Linn.—Report of the work by E. H. Forbush & C. H. Fernald [June] 1896, appendix D, p. 32–35.)

Report commending the work of the committee and recommending more liberal appropriations and the importation of parasites.

Elm tree beetle in Albany. (Albany express. July 1, 1896)

Gives the progress of the insect up the valley of the Hudson river.

Rose bugs. (Gardening. July 1, 1896. 4:311, col. 2)

Recommends the destruction of this insect on its breeding grounds when they are known.

10th report on the injurious and other insects of the state of New York for the year 1894. Albany, University of the State of New York, 1895. [Issued July 8, 1896.] 297 p., 4 pl., 24 fig. Also as report of the state entomologist for the year 1894. (New York state museum. 48th report, for the year 1894. Albany, University of the State of New York. 1895, 297 p., 4 pl., 24 fig.)

Contents

	PAGE		PAGE
Transmittal.....	355	<i>Gortyna</i> [<i>Hydroecia</i>] <i>immanis</i> , hop	
Injurious insects, etc	365	vine grub.....	372
Ants on fruit trees	365	<i>Gortyna</i> [<i>Hydroecia</i>] <i>cataphracta</i> ,	
<i>Derostenus</i> sp. ?	369	as a raspberry cane borer	373
Operations against the gypsy moth		Collections in the Adirondack	
in Massachusetts	369	mountains in 1893.....	376

	PAGE		PAGE
<i>Sitotroga cerealella</i> , grain moth.....	377	<i>Leptocoris trivittatus</i> , box elder	
<i>Diplosis pyrivora</i> , pear midge.....	386	plant bug.....	432
Notes on <i>Sciara</i>	387	Grasshopper plague in western	
<i>Sciara coprophila</i> n. sp., manure		New York.....	439
fly.....	391	<i>Julus caeruleocinctus</i> , with associ-	
<i>Sciara caldaria</i> n. sp., greenhouse		ated potato scab.....	444
<i>Sciara</i>	397	Mites attacking mushrooms.....	449
<i>Phora agarici</i> n. sp., mushroom		Mites infesting potatoes.....	451
<i>Phora</i>	399	<i>Tyroglyphus lintneri</i> , a mushroom	
<i>Agilus ruficollis</i> , gouty gall beetle	406	infesting mite.....	452
<i>Anomala lucicola</i> , light loving		<i>Phytoptus pyri</i> , pear leaf blister	
grape vine beetle.....	408	mite.....	453
<i>Anomala marginata</i> , margined		Appendix.....	461
<i>Anomala</i>	410	(A) Scorpion flies.....	463
<i>Diabrotica vittata</i> , striped cucum-		<i>Panorpa rufescens</i>	464
ber beetle.....	413	<i>Bittacus strigosus</i>	473
<i>Dibolia borealis</i> , a plantain leaf		(B) List of dates of collections of	
miner.....	414	Lepidoptera (Heterocera).....	481
<i>Otiorhynchus ovatus</i> , ovate snout		(C) List of publications of the	
beetle	416	entomologist.....	484
<i>Conotrachelus crataegi</i> , quince cur-		(D) Entomological publications of	
culio	419	J. A. Lintner, 1862-69.....	507
The 17 year locust in the state of		(E) Contributions to the depart-	
New York in 1894	420	ment in 1893.....	509
<i>Psylla pyricola</i> , pear tree Psylla ..	425	(F) Contributions to the depart-	
Remarkable abundance of aphids		ment in 1894.....	515
or plant lice in 1893	426	(G) Classified list of insects	
Are aphids eaten by spiders?.....	429	noticed in reports 1-10.....	521
<i>Pentatoma juniperina</i> , juniper plant		(H) Errata (additional) in pre-	
bug.....	430	ceding reports.....	535
		Index to reports 1-10.....	541

Army worm invasion. (Argus [Albany]. July 8, 1896. p. 8, col. 3; the same, in part New York recorder. July 15, 1896; Country gentleman. July 16, 1896. 61:552¹²; Rome sentinel. July 17, 1896; Circular of the department of agriculture of the state of New York)

Records injury by *Leucania unipuncta* and indicates remedies.

Wire worm. (Country gentleman. July 9, 1896. 61:540¹⁸)

Gives several remedies for these insects.

Army worm invasion. (New York daily tribune. July 18, 1896)

Notice of *Leucania unipuncta* and remedies.

Tent caterpillar. (Country gentleman. July 23, 1896. 61:571⁴⁶)

Identifies the apple tree tent caterpillar, *Clisiocampa americana*.

- Army worm. (Country gentleman. July 23, 1896. 61:574³³)
Ravages of *Leucania unipuncta* and remedies.
- Cut worms and borers. (Country gentleman. July 30, 1896. 61:591¹⁴)
Gives several remedies for these pests.
- More about the army worm. (Country gentleman. Aug. 6, 1896. 61:606¹²)
General notice of *Leucania unipuncta* and its parasites.
- Snapping bugs. (Country gentleman. Aug. 6, 1896. 61:610¹⁴)
Recommends several baits for attracting these beetles.
- Blister beetles. (Country gentleman. Aug. 13, 1896. 61:624³³)
Notifies the margined blister beetle, *Epicauta cinerea* Forst. and the striped blister beetle, *Epicauta vittata* Fabr.
- Willow butterfly. (Country gentleman. Aug. 27, 1896. 61:666¹⁸)
Records injury to trees at Whitehall, N. Y. by *Vanessa* [*Euvanessa*] *antiopa*.
- Caterpillars and parasites. (Country gentleman. Aug. 27, 1896. 61:670¹⁷)
Brief notice of the larva of *Ampelophaga myron* Cram. and its common parasite, *Apanteles congregatus*.
- Oak pruner. (Country gentleman. Sep. 3, 1896. 61:682⁴⁵)
Identifies an attack on maples by *Elaphidion parallelum* [villosum].
- Beech tree blight. (Country gentleman. Sep. 10, 1896. 61:705⁴³)
General notice of *Schizoneura imbricator* Fitch on beech leaves, describing the insect and indicating the remedies.
- Elm tree borer. (Country gentleman. Sep. 24, 1896. 61:746¹⁶)
Saperda tridentata Oliv. is identified and several remedies given.
- Cecropia moth. (Country gentleman. Sep. 24, 1896. 61:746²¹)
The cocoon of this moth, *Attacus* [*Samia*] *cecropia*, is described.
- Imported scale insects. (Country gentleman. Sep. 24, 1896. 61:746³³)
Brief comment on the reported importation of *Diaspis lanatus* [amygdali] and the importance of quarantine regulations.
- Pea bugs. (Country gentleman. Oct. 1, 1896. 61:763³⁷)
Chloroform or bisulfid of carbon are recommended for *Bruchus pisorum*.
- Rose leaf hopper. (Country gentleman. Oct. 1, 1896. 61:763⁴⁴)
Gives several remedies for *Typhlocyba rosae* Harris.
- Wheat wire worm. (Country gentleman. Oct. 22, 1896. 61:826¹⁴)
Agriotes mancus Say is identified and remedies given.
- Apple tree borers. (Country gentleman. Dec. 10, 1896. 61:949²⁴)
Brief general notice of *Saperda candida* Fabr. and *Chrysobothris femorata* Fabr. and remedies for them.

Notes on some of the insects of the year in the state of New York. (U. S. Dep't agriculture, Division entomology. Bulletin 6, new ser., 1896, p. 54-61)

Notes on the following insects: *Leucania unipuncta*, *Leucania albilinea*, *Anisopteryx* [*Paleacrita*] *vernata*, *Cacoccia rosaceana*, *Nolophana* [*Balsa*] *malana*, Cecidomyiid larva on choke cherry, *Euphoria inda*, *Elaphidion villosum*, *Crioceris asparagi*, *Macrobasis unicolor*, Chinch bug, *Aspidiotus perniciosus*, *Kermes galliformis* and *Gossyparia ulmi*.

Elm leaf beetle. (Country gentleman. Jan. 7, 1897. 62:7⁴³)

Corrections of a very erroneous article on this insect.

11th report on the injurious and other insects of the state of New York for the year 1895. Albany, University of the State of New York, 1896. [Issued Jan. 21, 1897] 246 p. (85-330), 16 pl., 25 fig. Also as report of the state entomologist for the year 1895. (New York state museum. 49th report for the year 1895. Albany, University of the State of New York, 1897. [Issued in October 1897], 245 p., 16 pl., 25 fig.)

Contents

	PAGE		PAGE
Introductory	101	Injurious insects (<i>continued</i>)	
Injurious insects.....	109	<i>Cecidomyia betulae</i> , birch seed	
<i>Monomorium pharaonis</i> , little red		midge	162
ant.....	109	<i>Diplosis cucumeris</i> , melon vine	
Ants in a lawn.....	115	midge	165
On arsenical spraying of fruit		<i>Diplosis setigera</i> , hairy melon vine	
trees while in blossom.....	117	midge	168
On the girdling of elm twigs by		<i>Anthomyia</i> sp., raspberry cane	
<i>Orgyia</i> [<i>Notolophus</i>] <i>leuco-</i>		maggot	170
<i>stigma</i>	124	<i>Anthrenus scrophulariae</i> , carpet	
<i>Eudiotis</i> [<i>Margaronia</i>] <i>nitidalis</i> ,		beetle	172
pickle caterpillar	126	<i>Pyrophorus noctilucus</i> , cucuyo...	174
<i>Eudiotis</i> [<i>Margaronia</i>] <i>hyalin-</i>		<i>Crioceris asparagi</i> , asparagus	
<i>ata</i> , melon caterpillar	134	beetle	177
<i>Pyrausta nubilalis</i> , a dogbane cat-		<i>Lina scripta</i> , cottonwood leaf bee-	
terpillar	138	tle	181
<i>Mecyna reversalis</i> , genista cater-		<i>Galerucella luteola</i> , elm leaf bee-	
pillar.....	142	tle in Albany.....	189
<i>Pyralis costalis</i> , clover hay cater-		<i>Galerucella cavicollis</i> , a cherry	
pillar.....	145	leaf beetle.....	197
<i>Grapholitha interstinctana</i> , clo-		<i>Blissus leucopterus</i> , chinch bug..	198
ver seed caterpillar	152	San José scale, and other des-	
<i>Antispila nyssacfoliella</i> , sour gum		tructive scale insects of New	
tree case cutter.....	157	York	200
<i>Tischeria malifoliella</i> , apple leaf		<i>Myrmeleon</i> sp.?, ant lion.....	234
miner	160	<i>Thrips tabaci</i> , onion Thrips.....	241

	PAGE		PAGE
Injurious insects (<i>concluded</i>)		(B) List of publications of the	
<i>Schoturus nivicola</i> , snow flea....	251	entomologist.....	273
<i>Achorutes diversiceps</i>	253	(C) Contributions to the depart-	
<i>Tyroglyphus heteromorphus</i> , a car-		ment in 1895.....	284
nation mite.....	254	(D) Classified list of insects, etc.,	
Appendix	261	noticed in this report.....	289
(A) List of injurious apple tree in-		(E) Explanation of plates.....	291
sects.....	263	Index	295

Two insects. (Country gentleman. Feb. 11, 1897. 62:106⁴²)

Notices the warble flies, *Hypoderma bovis* De Geer and *H. lineata* Villers, and the buffalo fly, *Haematobia serrata* Rob.-Desv.

Potato bugs. (Country gentleman. Feb. 18, 1897. 62:126³³)

Gives remedies for Colorado potato beetle.

Carbon bisulfid for pea weevil—A serious danger. (Farmer's advocate.

Mar. 15, 1897. 32:130, col. 3)

Directions for using this insecticide are given.

Probably the cheese mite. (Country gentleman. Mar. 18, 1897. 62:217²⁶)

Hams infested with quantities of animated dust have probably been attacked by the cheese mite, *Tyroglyphus siro* Linn., several remedies are given.

Canker worms. (Country gentleman. Ap. 1, 1897. 62:248¹⁸)

Work of canker worms, *Anisopteryx* [*Paleacrita*] *vernata* or *Anisopteryx* [*Alsophila*] *pometaria* is recognized and remedies indicated.

Apple tree borers. (Country gentleman. Ap. 22, 1897. 62:307³³)

Habits of *Saperda candida* and *Chysobothris femorata* are given and several remedies advised.

A grasshopper. (Country gentleman. Ap. 29, 1897. 62:326³⁸)

Eggs of the angular winged katydid, *Microcentrum retinervis*, are identified and several curious places for oviposition named.

Cow horn fly. (Country gentleman. May 6, 1897. 62:350¹⁶)

Several remedies are given for *Haematobia serrata*.

Elm and apple tree pests. (Country gentleman. May 20, 1897. 62:390¹⁷)

Remedies for the elm leaf beetle and preventives of apple tree borers are described.

Tent caterpillar. (Country gentleman. May 20, 1897. 62:390²⁴)

Clisiocampa americana is identified.

May beetle. (Country gentleman. May 20, 1897. 62:390²⁷)

Injuries to a lawn are probably caused by white grubs. Kerosene emulsion is recommended.

Strawberries and indian corn. (Country gentleman. May 20, 1897. 62:394¹⁷)

Cut worms are probably attacking the strawberries and the boll worm, *Heliothis armiger*, is injuring the corn. Remedies are indicated.

Elm tree beetle. (Country gentleman. May 27, 1897. 62:406³⁵)

Method of spraying elms is briefly described.

Grasshoppers. (Country gentleman. June 10, 1897. 62:446¹⁸)

Allowing fowls to run in garden, or poisoned bran mash is recommended.

Apple woolly louse. (Country gentleman. June 10, 1897. 62:454²⁴)

Schizoneura lanigera is identified and remedies indicated.

Arsenic and animals. (Country gentleman. June 10, 1897. 62:454³³)

Drippings from properly sprayed trees harmless to animals eating the grass or hay from beneath.

Apple tree aphid. (Country gentleman. June 17, 1897. 62:470¹³)

Attack by *Aphis mali* briefly noticed.

Carpet beetles. (Country gentleman. June 17, 1897. 62:470²²)

Anthrenus scrophulariae abundant on flowers at this time.

Grain weevil. (Country gentleman. June 24, 1897. 62:486²⁵)

No plant will protect grain from weevil, but a French agricultural paper states that aniseed will attract weevils from grain and kill them.

Wire worms. (Country gentleman. June 24, 1897. 62:486²⁷)

Carbon bisulfid or kerosene emulsion is recommended for wire worms at roots of cabbages.

The long sting. (Country gentleman. July 1, 1897. 62:506³²)

Gives a brief popular account of *Thalassa atrata*.

Army worm. (Country gentleman. July 1, 1897. 62:506⁴²)

Army worm eggs do not occur in grass seed. Repetition of last year's attack need not be feared.

Honey dew. (Country gentleman. July 8, 1897. 62:526¹⁵)

Nature of honey dew on maple leaves is briefly explained.

Cherry tree Myzus. (Country gentleman. July 8, 1897. 62:526²⁶)

Cherry trees show severe attack by *Myzus cerasi*. Remedies are indicated.

Scurfy bark louse. (Country gentleman. July 8, 1897. 62:526²⁸)

Chionaspis furfurus is identified and remedies given.

Plant lice. (Country gentleman. July 8, 1897. 62:526³⁵)

General directions are given for controlling aphids.

San José scale. (Country gentleman. July 8, 1897. 62:533¹¹)

General article giving in brief form what is known of *Aspidiotus perniciosus*.

Elm leaf beetle. (Argus [Albany]. July 10, 1897. p. 17)

Galerucella luteola is the chief depredator on elms and should be promptly suppressed.

Not the gypsy moth. (Country gentleman. July 15, 1897. 62:558¹¹)

Apple tree and forest tent caterpillars mistaken for the gypsy moth.

Chinch bug. (Country gentleman. July 15, 1897. 62:558¹⁴)

General directions are given for arresting an attack by *Blissus leucopterus*.

Subterranean grubs. (Country gentleman. Aug. 26, 1897. 62:666⁴⁷)

Kerosene emulsion is recommended for treating *Lachnosterna* species or *Allorhina nitida*.

San José scale. (Country gentleman. Aug. 26, 1897. 62:667¹²)

Refers to previous article for remedies.

Tussock moth. (Country gentleman. Sep. 2, 1897. 62:686²²)

Notes attack on plum by *Halisidota caryae*.

Insects and fruit. (Country gentleman. Sep. 2, 1897. 62:686²⁴)

Gives suggestions for decreasing injury to fruits by wasps.

Urocerus albicornis. (Country gentleman. Sep. 9, 1897. 62:707¹³)

Brief popular account of this interesting horn tail.

A plague of flies. (Country gentleman. Oct. 14, 1897. 62:806⁴⁶⁻⁷¹²)

May be the cluster fly, *Pollenia rudis*. Screens and pyrethrum are recommended.

Pine borer. (Country gentleman. Nov. 4, 1897. 62:867²⁷)

Work of the borer is described and commented upon.

Pine borer. (Country gentleman. Nov. 11, 1897. 62:887¹⁶)

From examples sent it is identified as *Harmonia* [*Parharmonia*] *pini* Kellet.

Fall canker worm and its eggs. (Country gentleman. Dec. 16, 1897.

62:986²⁷)

Life history and habits of the fall canker worm, *Anisopteryx* [*Alsophila*] *pometaria* are briefly given and remedies indicated.

12th report on the injurious and other insects of the state of New York for the year 1896. Albany, University of the State of New York, 1897. [Issued Ap. 22, 1898] 246 p. (159-404), 15 pl., 10 fig. Also as report of the state entomologist for the year 1896; New York state museum. 50th annual report, for the year 1896. Albany, University of the State of New York. 1897. p. 159, 15 pl., 10 fig.

Contents

	PAGE		PAGE
Introductory	177	Injurious insects (<i>continued</i>)	
Injurious insects.....	181	<i>Neuronia pardalis</i>	298
<i>Camponotus pennsylvanicus</i> [prob-		<i>Leptodesmus</i> species.....	300
ably <i>Formica subsericea</i> Say]		Appendix	305
and ' <i>Formica rufa</i> ' [probably		(A) Notes on some of the insects	
<i>Formica exsectoides</i> Forel], car-		of the year in the state of New	
penter ant and mound build-		York	307
ing ant.....	181	<i>Tenthredo rufopectus</i>	308
<i>Epantheria scribonia</i> [ocularia		<i>Datana integerrima</i>	309
Fabr.], great white leopard		Army worm.....	309
moth	183	Wheat head army worm.....	310
<i>Leucania unipuncta</i> , army worm..	190	<i>Eufitchia</i> [<i>Diastictis</i>] <i>ribearia</i> ...	310
<i>Steganoptycha claypolliana</i> , a new		Canker worm.....	311
maple tree insect	214	<i>Cacoecia rosaceana</i>	312
<i>Oxyptilus periscelidactylus</i> , gar-		Cecidomyid in choke cherries...	313
tered plume moth.....	218	<i>Euphoria inda</i>	313
Additional notes on <i>Sciara</i> , fun-		Elaphidion oak pruner	314
gus gnats.....	223	Asparagus beetle	314
<i>Piophilha casei</i> , cheese skipper:		Ash grey blister beetle.....	315
ham skipper	229	Chinch bug	315
<i>Lebia grandis</i>	235	San José scale.....	316
<i>Plagionotus speciosus</i> , sugar		Oak Kermes.	316
maple borer.....	237	Elm tree bark louse.....	317
<i>Saperda tridentata</i> , elm borer ...	243	<i>Phytoptus pruni</i>	318
<i>Crioceris 12-punctata</i> , 12 spotted		(B) Entomologic addresses	319
asparagus beetle	248	Mosquito	319
<i>Galerucella luteola</i> , elm leaf		Plea for entomologic study	336
beetle in Albany and Troy	253	(C) List of publications of the en-	
<i>Odontota dorsalis</i>	264	tomologist	347
<i>Balaninus proboscideus</i> : <i>Balani-</i>		(D) Contributions to the depart-	
nus rectus, chestnut weevils..	267	ment in 1896.....	359
<i>Cicada septendecim</i> , periodical		(E) Classified list of insects, etc.,	
cicada	272	noticed in this report.....	365
<i>Pemphigus rhois</i> , sumac gall aphid	290	(F) Explanation of plates.....	369
<i>Gossyparia ulmi</i> , elm tree bark		General index.....	373
louse	292		

13th report on the injurious and other insects of the state of New York, for the year 1897. Albany, University of the State of New York, 1898. [Issued Feb. 18, 1899]. 64 p., 2 pl., 3 fig. Also as Report of the state entomologist for the year 1897. New York state museum, 51st annual report, for the year 1897. Albany, University of the State of New York. 1898, p. 151.

Contents

	PAGE		PAGE
Introductory	331	Notes on various insects (<i>continued</i>)	
Transmittal	331	<i>Anthrenus scrophulariae</i> , carpet	
11th report	331	beetle	359
Publications of the office.....	331	<i>Elaphidion villosum</i> , oak pruner.	359
State collection.....	331	<i>Cyllene pictus</i> , hickory borer....	360
Correspondence	332	<i>Galerucella luteola</i> , elm leaf	
General entomologic features... 332		beetle	360
Losses caused by insects.....	333	<i>Blissus leucopterus</i> , chinch bug..	361
Injurious insects.....	335	Plant lice or aphididae.....	361
<i>Tenthredo rufopectus</i> , red breast-		<i>Pemphigus populi-transversus</i> ..	361
ed saw fly	335	<i>Chaitophorus</i> species.....	662
<i>Urocerus albicornis</i> , white horned		<i>Callipterus ulmifolii</i>	362
Urocerus	338	<i>Drepanosiphum acerifolii</i>	363
<i>Urocerus cressoni</i>	340	<i>Aphis mali</i>	363
<i>Eacles</i> [<i>Basilona</i>] <i>imperialis</i> , im-		<i>Myzus cerasi</i>	363
perial moth.....	342	<i>Myzus ribis</i>	363
<i>Lygus pratensis</i> , tarnished plant		<i>Rhopalosiphum</i> species.....	363
bug	351	<i>Thrips tabaci</i>	363
Notes on various insects.....	358	Publications of the entomologist..	364
<i>Pyralis costalis</i> , clover hay cater-		Contributions to the collection....	371
pillar	358	Explanation of plates	375
<i>Cecidomyia leguminicola</i> , clover		Index.....	377
seed midge.....	359		

Index to entomologist's reports 1-13 and to supplement of 14

This index is an extension, with modifications, of Dr Lintner's index to reports 1-10. References are given under preferred scientific names. The synonyms used in the text of preceding reports are placed in curves after the name or where there is simply a change in genus or species, the old term alone is given, preceded in the case of specific names by the initial for the genus. The synonymy given applies only to the publications indexed. In the case of reports 13 and 14 the superior figures tell the exact place on the page in ninths; e. g. 13:342⁷, means 13th report, page 342 beginning in the seventh ninth of the page, i. e. a little over two thirds of the way down.

Aaron, S. F. cited, 2:203.

Abbot, John, and Smith, J. E., *Natural history of the rarer lepidopterous insects of Georgia* cited, 2:68; 4:51; 5:174, 179, 183; 7:225; 12:183; 13:342⁷.

abbotii, Lophyrus, 1:42.

Otiocerus, 9:386.

Thyreus, 2:214; 5:175; 177, 306, 324; 6:187; 7:381; 9:451, 461; 10:502, 509; 11:280; 12:359; 13:371³; 14:312², 355³, 385⁴, 390¹.

abbreviata, Ceria, 7:229.

abbreviatus, Cryptohypnus, 8:200.

Gryllus, 8:179.

abdominalis, Brachynemurus, 11:238.

Melanolestes, 4:111; 5:316; 14:339².

Urocerus, 13:339⁸, 342², 342⁵.

Abert, W. S., insects from, 13:372³.

Abhdl. Acad. Muench., cited, 2:116.

Abia caprifolium, see Zараea inflata.

Abies alba, see Spruce, white.

balsamea, see Balsam fir.

canadensis, see Hemlock.

fraseri, see Balsam, southern.

nigra, see Spruce, black.

abieticolens, Adelges, see Chermes abietis.

Chermes, see C. abietis.

abietis, Adelges, see Chermes.

Athysanus, see Bythoscopus variabilis.

Chermes (syn. Adelges, A. abieticolens, C. abieticolens), 2:185.

abietis, Lachnus, 9:407, 412.

Lophyrus, 1:42.

abietisella, Gelechia, 4:20, 22, 59, 60.

Abraxas ribearia, see Diastictis.

abrupta, Bombyliomyia (syn. Hystricia, H. vivida, Tachina vivida), 8:297; 9:462.

Hystricia, see Bombyliomyia.

Abutilon, Fuller's rose beetle on, 2:143.

Acacia, insects injurious to;

Aspidiotus nerii, 8:214; 11:204. perniciosus, 11:223.

Icerya purchasi, 5:326.

Lecanium species, 11:221.

Academie des sciences, Paris, *Memoires* cited, 2:102.

Academy of arts and science, *Memoirs* cited, 8:159.

Academy of natural sciences (Davenport, Ia.), 14:305⁶.

Academy of natural sciences of Philadelphia, Entomological section, *Monthly proceedings* cited, 1:247; *Journal* cited, 1:211, 232; 2:110, 125, 132, 139; 3:133; 4:93, 128; 5:242; 8:152; 10:432; *Proceedings* cited, 1:127, 151, 157, 253; 2:102, 148, 168; 3:133; 4:101, 155; 5:213, 215, 234; 7:225, 255; 9:299, 300; 10:408, 414; 11:152, 156, 157, 160, 197, 240; 12:183.

Acanthia erosa, see Phymata wolffii. lectularia (syn. Cimex), 1:62; 2:17, 152; 9:458; 14:314⁴.

Acaridae, 2:36, 241; 9:464; 10:451-53; 11:254-60.

Acarina, 1:45; 3:129, 133; 5:287-95; 7:323; 10:449-60; 14:363³.

- Acarus domesticus*, *see* *Tyroglyphus siro*.
farinae, *see* *Tyroglyphus siro*.
horridus, *see* *Tyroglyphus longior*.
lactis, *see* *Tyroglyphus siro*.
muscarum (Hypopal form), 11:257.
- Acer dasycarpum*, *see* Maple, silver, soft, white.
platanoides, *see* Maple, Norway.
rubrum, *see* Maple, red.
saccharinum, *see* Maple, sugar.
- acerella*, *Lecanium*, *see* *Pulvinaria innumerabilis*.
acericola, *Lecanium*, *see* *Pulvinaria*.
Pulvinaria (syn. *Lecanium*), 6:143, 147; 7:370; 11:205.
acericorticis, *Lecanium*, *see* *Pulvinaria innumerabilis*.
acerifoliella, *Incurvaria* (syn. *Ornix*), 1:308; 5:215-19; 9:458; 14:314⁵, 362⁷.
Ornix, *see* *Incurvaria*.
acerifolii, *Drepanosiphum*, 13:363¹; 14:400³.
Pemphigus, 10:494; 14:380⁵.
- aceris*, *Aphis*, *see* *Chaitophorus*.
Chaitophorus (syn. *Aphis*), 9:406, 411, 412.
Coccus, *see* *Pulvinaria innumerabilis*.
Lecanium, of Europe, 1:310.
Pseudococcus, 11:287.
Psocus, *see* *P. venosus*.
- acerni*, *Aegeria*, *see* *Sesia*.
Sesia (syn. *Aegeria*), 10:504; 14:386⁵.
- aceti*, *Drosophila*, of Europe, 1:220.
- achatina*, *Clastoptera*, *see* *C. obtusa*.
Olene (syn. *Parorgyia parallela*), 1:328; 9:455; 11:264; 14:313³.
- achemon*, *Philampelus*, 5:175; 9:451; 10:481, 508; 14:309⁶, 312².
- Achlyodes thraso*, 1:336.
- Acholla multispinosa*, 10:517.
- Achorutes boletivorus*, *see* *Schoturus*.
diversiceps; description, 11:253, 254; immense numbers of, 11:254; observed at Karner, N. Y., 11:253; reference, 12:357, (as *Podura* species), 8:266; 11:254; 14:308⁶, 315⁷, 320⁷, 396².
humicola (syn. *Podura*), 2:205, 244.
marmoratus, *see* *Schoturus*.
nivicola, *see* *Schoturus*.
pratorum, *see* *Schoturus*.
purpurescens, 2:207.
texensis, *see* *Schoturus*.
- Achyranthes*, Fuller's rose beetle on, 2:143.
- Acidalia enucleata*, *see* *Synelys*.
lacteola, *see* *Eois*.
species, 1:72; 4:206.
- Acocephalus vitellinus*, *see* *Paramesus*.
- Aconite*, *Sitodrepa panicea* in, 4:92.
- Aconitum*, *see* Monkshood.
- Acordulecera dorsalis*, 13:371⁴.
- Acorn cup gall insects*, 4:42, 44.
- Acorns*, *Balaninus rectus* in, 12:271.
- Acrididae*, 2:187; 4:165; 6:151; 8:179; 9:330, 332; 10:359, 439-45.
- Acridium femur-rubrum*, *see* *Melanoplus*.
hemipterum, *see* *Chortophaga viridifasciata*.
marginatum, *see* *Chortophaga viridifasciata*.
virginianum, *see* *Chortophaga viridifasciata*.
viridifasciatum, *see* *Chortophaga viridifasciata*.
- Acronycta*, abdominal scent organs, 1:71.
americana, erroneous reference of *A. funeralis*.
brumosa, 11:265.
clarescens, erroneous reference of *A. pruni*.
dissecta, *see* *A. retardata*.
funeralis (*A. americana* in error), 2:77; 9:455; 10:482; 14:313⁴, 313⁶.
hamamelis, 10:482.
luteicoma, 1:328; 11:265.
morula, 1:328; 9:455; 10:481; 11:265; 14:313⁴.
oblinita, 9:456; 11:265.
occidentalis, 1:328; 11:265.
pruni (*A. clarescens* in error), 1:328; 11:265.
radcliffei, 1:328; 11:265.
retardata (syn. *A. dissecta*), 10:482.
species, 14:341⁸.
spinigera, 11:265.
- Acta Societatis pro Fauna et Flora Fennica* cited, 11:166.
- Actias luna*, *see* *Tropaea*.
- aculiferus*, *Leptostylus*, 1:304, 331; 11:268.
- acuminata*, *Mermis*, 4:127; 7:374; 8:290; 14:314⁹, 315¹, 321².
- Acutalis dorsalis* (syn. *Tragopa*), 9:392, 410.
- acutella*, *Botis*, *see* *Phlyctaenia*.
Phlyctaenia (syn. *Botis*), 10:4³.
- acutus*, *Jassus*, *see* *Platymetopius*.
Platymetopius (syn. *Jassus*), 9:402, 410.

- Adalia bipunctata* (syn. *Coccinella*, *C. bimaculata*), 2:232; 3:137, 143; 4:12, 194, 195; 6:117-19; 7:375; 9:306, 370; 12:298; 13:362^o, 362^o; 14:320⁷, 334⁶, 347⁵, 367⁸.
- Adams, J. M., insects from, 4:206, 207, 208; 6:188.
- Adams, J. Q., cited, 1:127; insects from, 4:206.
- Additional notes on Sciara*, 12:223-28.
- Adelges abieticolens*, see *Chermes abietis*.
- abietis, see *Chermes*.
- coccineus, see *Chermes strobilobius*.
- strobilobius, see *Chermes*.
- Adelocephala senatoria*, see *Anisota*.
- Adelphagrotis prasina* (syn. *Agrotis*), 1:8; 10:377, 482.
- adelphus, *Gomphus*, 12:364.
- adipaloides, *Botis*, see *Pyrausta*.
- Pyrausta* (syn. *Botis*), 10:483.
- Adipsophanes miscellus*, see *Catambena lineolata*.
- Adirondack black fly, 7:364.
- Adirondack gray gnat, 7:364.
- Adirondack insects, 4:23, 136-37; 5:260; 6:178; 7:219.
- Adirondack midge, 7:364.
- Adirondack punky, 7:364.
- Adirondack region, collections in, 5:281-86; 7:218; 10:376, 377; 11:104, 106; 12:307, 351; 14:326^o.
- Adirondack survey of the state of New York, *Report* cited, 1:99; 2:90.
- adjuncta, *Hadena*, see *Mamestra*.
- Mamestra* (syn. *Hadena*), 9:456; 10:482; 14:313^o.
- Adlumia, 5:288. See also *Fumitory*, climbing.
- Admiral, red, 12:308.
- adonidum, *Dactylopius* (syn. *D. longifilis*), 2:56.
- adumbrata, *Eriocampa*, 5:323; 14:342².
- adusta, *Hadena*, of Europe, 4:127.
- advena, *Cathartus* (syn. *Silvanus*), 9:308.
- Silvanus*, see *Cathartus*.
- Aëdes, 12:321.
- Aegeria acerni*, see *Sesia*.
- cucurbitae, see *Melittia satyriniformis*.
- ephemeraeformis, see *Thyridopteryx*.
- exitiosa, see *Sanninoidea*.
- pictipes, see *Sesia*.
- tipuliformis, see *Sesia*.
- Aegeridae*, see *Sesiidae*.
- aenea, *Myophasia*, 12:210.
- Pomphopoea*, 1:331; 11:269.
- aenescens, *Magdalus*, 11:270.
- Aeoloplus chenopodii* (syn. *Pezotetix*), 11:272.
- aequalis, *Stenobothrus*, see *Orphulella speciosa*.
- aerea, *Dibolia*, see *D. borealis*.
- Plusia*, 10:376, 482.
- aeroides, *Plusia*, 9:456; 10:376, 482; 14:313⁷.
- Aeschna constricta*, 11:284.
- heros, see *Epiaeschna*.
- aesculana, *Proteoteras*, 12:214, 215, 216; 217.
- aesculi, *Zeuzera*, see *Z. pyrina*.
- Aesculus glabra*, *Steganoptycha claypoliana* injuring, 12:216, 217.
- hippocastanum, see *Horse-chestnut*.
- affinis, *Bombus*, 11:104.
- Bruchus*, of Europe, 7:284.
- Bruchus Froelich* (syn. *B. flavimanus Bohem.*), 7:268, 282, 284.
- Erythroneura*, see *Typhlocyba comes* var. *basilaris*.
- Lachnosterna*, 11:268.
- Phytomyza*, erroneous reference of *P. chrysanthemi*.
- Saperda*, see *Oberea bimaculata*.
- Typhlocyba*, see *T. comes* var. *basilaris*.
- afflictana, *Lozotaenia*, 10:483.
- afranius, *Thanaos* (syn. *Nisoniades*), 14:307¹, 321¹.
- African tamarisk, *Amphicerus bicaudatus* boring into, 12:362.
- agarici, *Phora*, 10:399-406, 516; 12:229, 351; 14:308¹, 393³.
- Agaricus*, *Achorutes boletivorus* on, 2:206.
- Agarista octomaculata*, see *Alypia*.
- Agassiz, L. J. R., referred to, 12:345.
- Agassiz association, state normal college, reference, 12:336-45.
- Agdistis bennetii*, 12:221.
- Agelaeus phoeniceus*, see *Black bird*, red winged.
- Ageratum*, *Leptocoris trivittatus* on, 10:438.
- Aglais milberti* (syn. *Vanessa*), 4:137; 5:285; 10:507; 14:309⁵.
- Aglaia tau*, of Europe, 5:188; 13:343³.
- agonus, *Limonius*, 11:285.
- agraria, *Sciara*, 12:225-26.
- agrestis, *Clytus*, see *Xylotrechus colonus*.
- Agricultural Gazette of New South Wales* cited, 10:454; 11:232.
- Agrilus anxius* (syn. *A. torpidus*), 5:283, 317; 10:407; 14:339^o.

- Agrilus ruficollis* (syn. *Buprestis*), 6:123-25, 174; 10:406-7, 516; 11:285; 12:352; 14:324⁹, 367⁸, 393⁸.
sinuatus, 11:225, 286.
torpidus, see *A. anxius*.
Agriotes lineatus of Europe, 1:46.
mancus (syn. *A. truncatus*), 4:207; 8:198, 200; 12:356; 14:394⁹.
truncatus, see *A. mancus*.
Agromyza diminuta (syn. *Oscinis trifolii*), 6:184, 14:329⁹.
tritici, 1:226.
Agromyzidae, 4:78.
Agrotis, 1:58, 104, 109, 312.
annexa, see *Feltia*.
badicollis, see *Semiophora elimata* var.
baja, see *Noctua*.
bicarnea, see *Noctua*.
brunneicollis, see *Rhynchagrotis*.
clandestina, see *Noctua*.
c-nigrum, see *Noctua*.
cochrani, see *Carneades messoria*.
cupida, see *Rhynchagrotis anchocelioides*.
devastator, see *Xylophasia devastatrix*.
fennica, see *Noctua*.
haruspica, see *Noctua*.
herilis, see *Feltia*.
inermis, see *Peridroma saucia*.
malefida, see *Feltia*.
messoria, see *Carneades*.
nigricans var. *maizi*, see *Carneades tessellata*.
ortonii, see *Peridroma saucia*.
perpolita, see *Carneades*.
placida, see *Rhynchagrotis*.
plecta, see *Noctua*.
prasina, see *Adelphagrotis*.
redimicula, see *Carneades*.
repentis, see *Carneades messoria*.
saucia, see *Peridroma*.
scandens, see *Carneades*.
segetum, 8:235.
species, 11:173.
subgothica, see *Feltia*.
tessellata, see *Carneades*.
triosa, see *Feltia jaculifera*.
tritici, 8:235.
ypsilon, 1:8, 58; 8:111, 126, 188-91, 284, 296; 10:497; 12:205; 14:371⁸, 382⁸.
Alaus, blind, 1:330; 11:267.
Alaus myops, 1:330; 5:317; 11:267; 14:339⁹.
oculatus, 1:330; 2:230; 4:141, 207; 5:317, 325; 6:189; 9:448; 11:267; 12:361; 14:311⁴, 333⁸, 339⁹, 357⁹.
Albany daily press and Knickerbocker, abstract from, 14:364²; cited, 7:358; 9:446.
Albany evening journal, abstracts from, 11:274, 278, 281; 12:350; 14:328⁶, 330⁹, 345⁷, 354⁷, 359⁶, 359⁹, 360⁵, 363⁹, 364⁸, 365², 366², 366⁷, 366⁹, 367², 367⁴, 369⁵, 369⁸, 371², 371⁷, 373⁸, 378⁶, 379⁸, 381², 384⁵, 386⁹, 387⁷, 389⁵, 390³, 392³; cited, 1:99, 127, 149; 2:69, 223; 3:150; 5:304; 6:166, 167, 168, 179, 180, 181; 7:321, 357, 358, 360, 362, 364, 365; 8:141, 279, 283, 284, 287; 10:489, 492, 495, 499, 505; 11:233; 12:243, 253.
Albany evening times, abstracts from, 14:312⁷, 314⁶, 314⁹, 364⁶; cited, 7:359; 8:290; 9:454, 459.
Albany institute, Proceedings, abstracts from, 14:305³, 310⁵, 312⁶, 312⁷, 315⁶, 316⁴, 380⁸; cited, 4:151; 8:291, 293; 9:299, 446, 454; 11:241; *Transactions* cited, 10:495.
albella, *Isotoma*, 6:190.
Albertson, S. L., insects from, 6:190.
albicornis, *Sirex*, see *Urocerus*.
Urocerus (syn. *Sirex*), 13:338¹-40⁷, 341², 341⁹, 342⁵, 370¹, 371⁴; 14:398⁸, 400³. See also *Urocerus albicornis*.
albida, *Syneta*, 11:269.
albidihalteris, *Phora*, 12:228, 229, 361.
albifrons, *Edema*, see *Symmerista*.
Smicra, 12:211.
Symmerista (syn. *Edema*), 9:456; 14:313⁵.
albilinea, *Leucania* (syn. *L. harveyi*), 4:56; 8:291; 10:482, 490, 509; 12:310, 356; 13:372³; 14:315³, 379³, 379⁵, 395².
albipennis, *Bibio*, 2:110; 4:174; 6:167, 174, 188; 7:369; 14:318⁴, 324⁷, 342⁶, 359⁹.
albolineata, *Synchlora*, see *S. glaucaria*.
albopicta, *Empoasca*, 11:270.
alcathoe, *Anthomyia*, 1:171.
Alder, insects injurious to;
Aspidiotus perniciosus, 11:224.
Clastoptera obtusa, 5:243; 6:172; 8:153.
Fenisea tarquinius, 2:231; 4:179; 5:282.
Haltica bimarginata, 4:96, 97.
chalybea, 4:101.
Pemphigus tessellata (syn. *Schizoneura*), 2:181; 3:125; 9:346.
black, *Clastoptera obtusa* on, 5:243.
Alder blight aphid, 2:181; 9:346, 347, 408; 10:498; 14:383⁴.

- Alder flea beetle, 4:96-101; 14:357⁴.
 Alder leaf Lachnus, 9:407.
 Alder spittle insect, 5:242-46; 14:362⁹.
 Alder woolly plant lice, 5:282.
 Aldrich, J. M., cited, 10:405, 454; 11:182.
 Aldrich, T. C., insects from, 9:461.
 Aleochara anthomyiae, *see* A. nitida.
 brachypterus, 1:188.
 nitida (syn. A. anthomyiae), 1:188.
 Aletia argillacea (syn. A. xylina), 1:7, 35, 58, 117, 328; 2:220; 4:206; 11:266; 12:342.
 cotton worm, 1:120.
 xylina, *see* A. argillacea.
 aletiae, Phora, 10:405.
 Aleuroides species, 1:331; 11:271.
 Aleurodidae on apple trees, 11:271.
 Aleyrodes, 2:220; 7:383.
 alia, Taeniocampa (syn. Orthosia instabilis), 1:328; 11:265.
 Allantus rufopectus, *see* Tenthredo.
 Allen, G. H., insects from, 7:382.
 Aller, T. O., insects from, 9:464.
 alii, Thrips, *see* Thrips tabaci.
 Allis, E. A., insects from, 6:189.
 Allis, J. W., insects from, 10:518.
 Allorhina nitida, 1:237, 238, 239; 2:114; 5:319; 6:188; 9:353; 10:516; 11:268, 286; 13:369⁵; 14:329⁷, 340⁸, 398³.
 sobrina, 11:268.
 allynii, Eupelmus, 4:33.
 Almond, insects injurious to;
 Aspidiotus perniciosus, 11:223.
 Bryobia pratensis, 7:322.
 Diabrotica vittata, 4:103.
 Almonds, bitter and sweet, Sitodrepa panicea in, 4:92.
 alni, Haltica, *see* H. bimarginata.
 alnifoliae, Lachnus, 9:407, 412.
 Alnus species, *see* Alder.
 Alobates pennsylvanicus (syn. Nyctobates), 4:20, 23; 6:189.
 alope, Ceryonis (syn. Satyrus), 4:137.
 Satyrus, *see* Ceryonis.
 alpha, Liopus (syn. Sternidius), 1:331; 11:269.
 Sternidius, *see* Liopus.
 alpinellus, Crambus, 1:150.
 Alsophila pometaria (syn. Anisopteryx), 1:11, 57, 72, 329; 4:15, 139, 140, 206; 11:266; 13:365³, 370⁷; 14:357⁹, 396⁶, 398⁸.
 alternans, Laemophloeus, 3:100; 14:352⁴.
 Temnostoma, 7:229.
 alternatus, Idiocerus, 9:399, 410.
 Althaea, Sciara giraudii in stems of, 5:265.
 Altica rufipes, *see* Crepidodera.
 Alucita, 10:383.
 cerealella, *see* Sitotroga.
 granella, *see* Sitotroga cerealella.
 hexadactyla, 12:221.
 Alwood, W. B., cited, 11:233.
 Alypia octomaculata (syn. Agarrista), 1:33; 5:179-83; 6:177; 8:296; 9:455; 10:481; 13:371⁷; 14:313², 326¹, 353³, 362⁸.
 Alysia manducator, of Europe, 1:176, 187.
 Alyssum, sweet, Phyllotreta vittata on, 1:60.
 Amara, food plants of, 3:99.
 angustata, 12:209.
 obesa, 10:493.
 Amarantus, army worm feeding on, 12:206.
 amata, Calopteryx, 7:220.
 ambigua, Gaberasa (syn. Tortricodes bifidalis, T. indivisalis), 7:375; 14:321⁷.
 ambisimilis, Clisiocampa, 11:265.
 Ambler, H. S., insects from, 12:360, 364; 13:372⁴; reference, 13:358³.
 Amblycephalus curtisii, *see* Athysanus.
 inimicus, *see* Deltocephalus.
 melsheimerii, *see* Deltocephalus.
 sayii, *see* Deltocephalus.
 Amblycorypha oblongifolia (syn. Phylloptera), 6:189; 7:369; 9:464; 10:512, 519; 11:284, 288; 12:363; 14:318¹.
 rotundifolia, 7:384.
 Ambrosia artemisiaefolia, *see* Ragweed.
 trifida, 1:115. *See also* Ragweed, great; Horsetweed.
 ambrosiaefoliella, Bucculatrix, 1:344; 8:106, 138.
 ambulans, Lipura, 2:209.
 Amelanchier canadensis, *see* Shad bush.
 canadensis var. botryapium, *see* Shad bush.
 American agriculturist abstract from, 14:387²; cited, 2:149; 5:193; 10:505; 12:194.
 American angler, cited, 4:202; 14:351³.
 American association for the advancement of science, Annual address of president of entomological club of, 4:172; Proceedings, abstract from, 12:350; cited, 1:163; 6:183; 8:155, 160; 9:317; 11:232; 12:214; 14:305⁷, 329⁵, 330⁴, 368⁸, 392².
 American blight, *see* Schizoneura americana.

American cyclopedia cited, 9:299.

American entomological society, *Transactions*, abstracts from, 14: 305², 310³, 310⁶, 358³; cited, 1:157, 163, 228; 2:126, 180; 4:80, 114, 151; 5:173, 216, 227, 232; 7:255, 256, 280, 285; 8:155, 160; 9:300, 446, 451; 10:408, 411, 417, 478, 508; 11:152, 197, 234, 241; 12:181, 182, 264, 298; 13:335³, 338⁴, 340³, 344³.

American entomologist, abstracts from, 14:323², 324⁵, 325⁴; cited, 1:99, 110, 116, 157, 173, 184, 194, 199, 221, 227, 239, 264, 271, 281; 2:89, 111, 117, 125, 126, 132, 142, 149, 168, 203; 4:28, 35, 42, 51, 63, 80, 93, 103, 114, 115, 156, 158; 5:173, 184, 227, 234; 6:125, 147, 173, 175; 7:225, 228, 246, 247, 255, 279, 296, 324; 8:129, 155, 160; 9:300, 317; 10:388, 405, 432, 453; 11:126, 145, 146, 177, 181, 248; 12: 183, 190, 218, 230, 235, 237, 264, 266, 290; 13:343³, 351⁷, 351⁸.

American entomologist and botanist, see *American entomologist*.

American entomology (Le Conte edit.), see Say, Thomas.

American farmer, abstracts from, 14:378⁷, 379¹; cited, 10:489, 490.

American florist cited, 4:73; 7:242; 11:242.

American garden, abstract from, 14: 351⁸; cited, 4:204.

American journal of horticulture cited, 2:117.

American journal of science and arts cited, 2:57, 167; 9:309; 12:229.

American lappet moth, 1:328; 11: 265.

American locust, 11:271.

American naturalist, abstract from, 12:347; cited, 1:99, 127, 149, 211, 247, 254, 281; 2:102, 149, 208; 4:28, 80, 128, 151; 5:164, 207, 234; 7:324, 372, 374; 8:160; 9:299, 300, 307, 309, 447, 448; 10:388, 404, 405, 477, 478; 11:174, 177, 240; 12:214, 237, 243, 248, 328, 347; 14: 310³, 311⁴, 319⁴, 391²; reprint from, 11:124-26.

American philosophical society, *Proceedings* cited, 1:87, 247, 254; 2:139, 142; 4:103; 5:192; 7:228; 9:300; 10:416; 12:268; 13:343²; *Transactions* cited, 2:136; 4:128; 5:231; 12:235, 268.

American pomological society, *Report*, abstract from, 14:352⁷; cited, 2:125; 5:299.

American quarterly journal of science and agriculture cited, 2:203; 4:158; 6:125; 10:477; 11:251; 12:237.

American rural home cited, 3:149.

americana, *Acronycta*, erroneous reference of *A. funeralis*.

Cimbex, 1:138; 8:300; 11:284.

Clisiocampa, see *Clisiocampa americana*.

Euprepia, see *Arctia caja*.

Gastropacha, see *Phyllodesma*.

Harrisina (syn. *Procris*) 2:231; 7:379; 14:323⁵, 323⁷, 334³.

Meromyza, 1:221-27, 344; 3:96; 6:178; 7:377; 12:361; 14:322⁸, 326⁹, 335⁹. See also *Wheat stem maggot*.

Penthimia, 9:397.

Phyllodesma (syn. *Gastropacha*), 1:328; 9:456; 11:265; 14:313⁶.

Procris, see *Harrisina*.

Schistocera, 11:271; 14:340⁶.

Schizoneura, 5:319.

Silpha, 9:462; 11:285.

Uropodá, see *Uropoda americana*.

americanum, *Belostoma*, 3:141; 4: 145, 208; 6:189; 7:383; 8:299; 10: 512, 517; 14:357⁹.

americanus, *Argas*, 6:158.

Chauliognathus, see *C. pennsylvanicus*.

Chrysophanus, see *Heodes hypophlaeas*.

Dermacentor (syn. *Ixodes*), 6: 158.

Ixodes, see *Dermacentor*.

Julus, see *Spirobolus marginatus*.

Lithobius, see *L. forficatus*.

Necrophorus, 14:309⁹.

ammerlandia, *Scutelligera*, see *Microdon globosus*.

amoena, *Drosophila*, 1:221, 330; 11: 267.

Amoenitates Academiæ cited, 8:155. *Ampelophaga myron* (syn. *Darapsa*, *Sphinx*, *S. pampinatrix*), 4:201, 202; 5:174-79, 307, 324; 7:381; 8: 186-87, 295; 9:450; 10:481, 508, 509, 515; 12:354, 359; 14:309⁹, 317⁹, 350⁷, 351², 355⁸, 362⁶, 394⁵.

ampelophila, *Drosophila*, 1:65; 2:6, 221, 330; 6:117, 173, 177; 7:211; 11: 267, 285; 14:323⁹, 326⁹, 335⁹.

ampelopsidis, *Telamona*, 9:391.

Ampelopsis or *A. quinquefolia*, see *Woodbine*.

Amphibolips prunus, 4:42; 14:357⁴. *Amphicarpocæa monoica*, see *Falcata comosa*.

Amphicerus bicaudatus (syn. *Apate*, *Bostrichus*), 1:312, 330; 2:125-32; 9:447; 11:268; 12:362; 14:311², 342⁷.

Amphidasys cognataria, see *Lycia*.

- Amphion nesus, 10:515.
 Amphipyra pyramidoides, 1:328; 4:138; 8:296; 11:265.
 Amphisa discopunctana, 10:483.
 ampla, Plusia, 10:377.
 Amsterdam [N. Y.] daily democrat, abstract from, 14:368⁶; cited, 5:314; 7:367; 9:299.
 amygdali, Diaspis (syn. D. lanatus), 12:355; 14:394⁷.
 amyntor, Ceratomia (syn. C. quadricornis), 8:296; 10:481, 507, 508, 509; 12:359; 14:309², 309³.
 Amyot, C. J. B., and Serville, J. G., *Histoire naturelle des insectes—Hémiptères* cited, 10:430.
 Anacamptis cerealella, *see* Sitotroga.
 robinella, *see* Gelechia.
 anaglypticus, Copris, 10:516.
 Analcis fragariae, *see* Tyloderma.
 Anametis granulatus (syn. A. grisea), 11:269, 270.
 grisea, *see* A. granulatus.
 Anarsia lineatella (syn. A. pruinella), 1:151-56; 6:173; 7:369, 375; 11:267; 14:316³, 318⁴, 320⁵, 324³, 335⁶.
 pruinella, *see* A. lineatella.
 Anasa tristis, attacking melons, 3:110-12, 147; attracting to shelters, 1:63; creosote oil for, 9:434; gypsum and kerosene for, 2:29; pyrethrum harmless to, 1:39; reference, 2:165; 8:288, 299; 10:497, 519; 11:282, 287; 13:374⁴; 14:345¹, 352², 360⁷, 373¹, 380⁶, 382⁵, 386⁵, 390⁷; remedies, 6:169; 8:205-7; 10:504; 11:282.
 anatipennella, Coleophora, of Europe 1:163.
 Anatis 15-punctata, *see* A. ocellata.
 ocellata (syn. A. 15-punctata), 3:116; 5:305; 8:284, 298; 13:362⁶, 373²; 14:354⁸, 371⁹.
 anchocelioides, Rhynchagrotis (syn. Agrotis cupida), 1:58; 7:375; 14:321⁹.
 anchorago, Stiretrus, 2:146.
 Ancyloxypa numitor, 9:461.
 ancylus, Aspidiotus, 11:213, 271, 275, 287; 14:388³.
 andereggiella, Argyresthia, 11:267.
 Andrenidae, 7:219; 10:360; 11:103.
 Andrews, W. V., cited, 13:345⁵.
 Andricus saltatus, a jumping gall insect, 7:309.
 Angelica, Sitodrepa panicea in, 4:92.
 angelica, Apatelodes, 9:455; 14:313³.
 Angerona crocataria, *see* Xanthotype.
 Angoumois moth, 1:299, 316; 2:102-10; 4:17; 6:187; 10:377-86, 485, 492, 510; 14:342⁵, 377², 379⁷.
 Anguillulidae, 6:165; 8:221; 10:400, 449; 11:255; 14:359⁸.
 angulalis, Palthis, 11:266.
 angulifera, Callosamia (syn. Attacus), 4:206.
 Angus, James, cited, 7:255; insects from, 9:461; observations on Cicada, 12:285.
 angusii, Datana, 4:178.
 angustata, Amara, 12:209.
 angustatum, Mallodon, 7:251.
 angustatus, Nysius (syn. N. destructor), 1:195, 331; 2:166; 5:321; 11:270; 14:341⁵.
 angusticollis, Meloë, 6:130; 9:458; 10:511, 517; 11:286; 14:314⁶, 367⁹.
 angustifrons, Anthomyia, *see* Phorbia fusciceps Zett.
 Chortophila, *see* Phorbia fusciceps Zett.
 angustus, Cryptocampus, 13:336⁶.
 Ania limbata (syn. Nematocampa filamentaria), 3:136; 4:206; 9:456; 11:266; 14:313⁷.
 anilis, Clerus, 4:142.
 Anisodactylus from strawberry roots, 9:462.
 rusticus, 12:209.
 Anisopteryx pometaria, *see* Alsophila.
 vernata, *see* Paleacrita.
 Anisota bicolor, *see* Sphingicampa.
 bisecta, *see* Sphingicampa.
 heiligbrodti, *see* Sphingicampa.
 pellucida, *see* A. virginienensis.
 rubicunda (syn. Dryocampa), 3:91; 5:197, 198, 200; 9:295, 422, 455; 10:507; 14:309⁶, 313³.
 senatoria (syn. Adelocephala), 2:230; 3:91; 5:192-200, 9:450, 453; 14:312⁴, 333³, 362⁶.
 stigma, 3:91; 5:197, 199.
 virginienensis (syn. A. pellucida), 5:199.
 Annals of nature cited, 4:128.
 annexa, Agrotis, *see* Feltia.
 Feltia (syn. Agrotis), 8:235.
 Annual register of rural affairs cited, 1:172.
 annulata, Brochymena, 11:270.
 Plesiastina, 10:392.
 Psylla, *see* P. carpini var.
 Annulosa Javanica cited, 2:136.
 Anobium obesum, *see* Sitodrepa panicea.
 paniceum, *see* Sitodrepa panicea.
 tessellatum, *see* Xestobium rufovillosum.

- Anomala*, black, 1:307.
 light-loving, 1:307.
 margined, 10:411-13; 11:268; 12:352.
- Anomala atrata*, *see* *A. lucicola*.
- binotata*, 10:413.
- lucicola* (syn. *A. atrata*, *A. maculicollis*, *A. moerens*, *A. pinicola*), 1:307; 5:305, 325; 10:408-10; 12:352; 13:373⁵; 14:355², 393³.
- maculicollis*, *see* *A. lucicola*.
- marginata* (syn. *Melolontha*), 10:411-13, 491; 11:268; 12:352; 14:379⁵, 393⁴.
- minuta*, 10:412, 413.
- moerens*, *see* *A. lucicola*.
- pinicola*, *see* *A. lucicola*.
- undulata* (syn. *A. varians*), 10:413; 11:268.
- variens*, *see* *A. undulata*.
- Anomalon*, oviposition in *Datana*, 8:164.
- Anomia rosae*, *see* *Typhlocyba*.
- Anopiedas error* (syn. *Platygaster*), 1:321; 2:2.
- Anopheles* 12:321.
- hyemalis*, *see* *A. punctipennis*.
- punctipennis* (syn. *Culex* and *Anopheles hyemalis*, and *A. quadrimaculatus* in error), 1:298; 2:241; 12:320; 14:343².
- quadrimaculatus*, erroneous reference of *A. punctipennis*.
- Anoplitis scutellaris*, *see* *Odontota dorsalis*.
- Anosia plexippus* (syn. *Danaus archippus*), 4:135-36; 5:285; 8:287; 10:490; 14:357³, 379².
- Anotia bonnetii*, 9:387.
- Ant*, black, 1:213, 321; 10:491.
- carpenter, 12:181; 14:399².
- cherry tree, 10:365, 366.
- European wood, 12:182.
- fallow, 11:115.
- large black, 1:62; 11:113, 114.
- little black, 9:370; 11:113.
- little red or yellow (*Monomorium pharaonis*), 1:62, 65, 321; 4:133; 9:371, 441; 10:366; 11:109-14, 281-82; 12:356; 14:390⁵, 395⁵.
- mound making, 11:115; 12:181; 14:399³.
- New York, 1:330; 11:264.
- pavement, 11:113.
- Pennsylvania, carpenter, 12:181.
- white, 9:454.
- wood, 2:53.
- yellow (*Formica rufa*), 11:273.
- Ant lions*, appearance and habits, 11:234; capture of prey, 11:235; climbing, 7:319; 9:440; 14:374⁷; habits of European species, 11:239; life history, 11:236-38; literature of Myrmeleonidae, 11:240-41; number of species, 11:234; pitfall, 11:235; reference to, 1:79; 2:233; 9:454; 12:357; 14:312⁶, 336⁵; transformations, 11:236; under carpet, 7:318-20; United States species of Ascalaphinae, 11:239.
- Ants*, associated with plant lice, 9:370, 371, 441; 10:501; attacking Cicada, 12:289; cutworms, 1:321; larvae of vagabond Crambus, 1:145; classification, 1:78; injuries to orange trees, 10:366; in apple tree, 1:213; in lawns, 11:115-16; 12:356; 14:387³, 395⁵; in strawberry beds, 10:502; longevity of, 4:181; number of species in United States, 11:115; on fruit trees, 10:365-68, 491; 11:115; 12:351; 14:379⁴, 392²; on peonies, 10:368-69, 491; 14:379⁵; preying upon young 17-year locust, 2:177; reference to, 2:35; 4:84, 114; 9:454; 10:398; 11:235, 280; 14:322⁵; remedies, 10:367; 14:385⁴; sense organs of, 4:180; soluble phenyle for, 1:50; species treated, 10:365-69; 11:109-16; 12:181-82; Staphylinidae parasitic upon, 1:187; value of, in orchards, 10:368.
- antennalis*, *Chlorops*, *see* *Sapromyza vulgaris*.
- antennata*, *Xylina* (syn. *X. cinerea*), 1:137, 328; 11:265, 279.
- antennatum*, *Callidium*, 13:373⁶.
- Anthemis*, *Phytomyza chrysanthemi* (*P. lateralis* in error) mining, 4:77.
- Anthomaster leonardus* (syn. *Pamphila*), 9:449; 14:311³.
- Anthomyia*, 1:47, 75, 171, 180-81, 195, 200, 202; 8:285.
- alcathoe*, 1:171.
- angustifrons*, *see* *Phorbia fusciceps Zett.*
- antiqua*, *see* *Hylemyia*.
- betae*, *see* *Pegomyia*.
- brassicae*, *see* *Phorbia*.
- calceola* MS., 1:195.
- ceparum*, *see* *Phorbia*.
- fly larva*, 11:172.
- goniphora* MS., 1:195.
- ischiaca* MS., 1:195.
- lactucarum*, 1:191.
- latitarsus*, 1:171.
- lenis* MS., 1:195.
- lunatifrons* MS., 1:195.
- notatifrons* MS., 1:195.

Anthomyia pluvialis, 1:171.
radicum (syn. *Musca*), 1:171, 184, 185, 186, 191-94, 196, 198; 14:335⁹.
radicum var. *calopteni* *Riley*, see *Phorbia fusciceps* *Zett.*
raphani, 1:48, 171, 193, 194-99, 296, 322; 2:28; 14:335⁹.
ruficeps, 1:171, 185.
similis (syn. *Hylemyia*), 1:171, 202; 14:338⁸.
species, 11:170-72, 285; 12:357, 361; 14:372¹, 395⁶.
sulcans, see *Pegomyia betae*.
timida *MS.*, 1:195.
zeae, see *Phorbia fusciceps* *Zett.*
anthomyiae, *Aleochara*, see *A. nitida*.
Anthomyiidae, 1:168-211; 2:35, 46, 225; 5:314; 11:170-72.
Anthonomus crataegi, see *Pseudanthonomus*.
musculus, erroneous reference of *A. signatus*.
pomorum, 11:270.
quadrigibbus, see *Tachypterus*.
signatus (*A. musculus* in error), 3:139; 9:431.
species, 10:517.
sycophanta, 5:173.
Anthony, Mrs. E. C., insects from, 10:516; 11:284, 286; 12:359, 360, 361, 363; 13:374⁵.
Anthophila, number of U. S. species, 4:181.
Anthophora retusa, 10:386.
Anthracnose, 4:185.
Anthreni, 11:173.
Anthrenus, 1:64, 74; 9:381.
scrophulariae, associated with *Attagenus megatoma*, 2:46, 226; 7:377; bibliography of, 9:299, 300; contributions of, 5:325; 6:188; development and deposit of eggs, 11:173; eating lace curtains, 11:173; fondness for dead insects, 11:173; general account of (abstract), 7:372; 8:292, 293; (extended), 9:299-306; habits, etc., 5:267, 268, 314; 6:173; 8:294; 11:174; 13:359³, 367⁵; in Akron, O., 3:139; introduced from Europe, 4:175; 6:335; lady birds mistaken for, 4:195, 196; 6:118; linen and silk not eaten by, 2:47, 232; 4:179; longevity of larvae, 3:138; museum pest, 2:138; 5:268; occurrence on flowers, 4:141; ravages, extent of, 1:9, 10; 6:120; refer-

ence, 8:373, 374; 10:498; 11:280; 13:359³, 367⁵; 14:316⁴, 316⁹, 317⁵, 319³, 319⁸, 320³, 321², 322⁷, 322⁸, 324³, 325⁵, 334³, 338⁵, 350³, 357⁹, 363³, 366⁹, 383⁴, 389⁹, 395⁷, 397⁵, 400¹; remedies for, 1:59, 64; 7:364; 9:304-6; 12:357; reward for destruction of, 6:120; rhubarb as a lure for, 1:172-73;
varieties; *flavipes*, 9:299, 301; *lepidus*, 6:175; 9:299, 303; *thoracicus*, 9:299, 301.
varius, see *A. verbasci*.
verbasci (syn. *A. varius*), 1:65, 299; 2:138; 4:141; 5:267, 268; 6:120.
Anthribidae, 2:140.
Anthribus variegatus *Fourcr.* (syn. *A. varius* of Europe, ?*Brachytarsus varius*), 1:259; 2:53, 140.
variegatus *Say*, see *Brachytarsus*.
varius of Europe, see *A. variegatus* *Fourcr.*
Anthricidae on apple, 11:269.
antiopa, *Eu Vanessa* (syn. *Vanessa*), 2:230, 232; 4:137; 8:296; 10:507; 12:354, 359; 14:309⁵, 333³, 334⁶, 394⁴.
Vanessa, see *Eu Vanessa*.
antiqua, *Anthomyia*, see *Hylemyia*.
Hylemyia (syn. *Anthomyia*), 1:171, 179, 180, 202.
Notolophus (syn. *Orgyia*, *O. nova*), 1:98; 7:219, 381; 8:289; 11:264, 285; 14:373⁸.
Orgyia, see *Notolophus*.
Antispila cornifoliella, 11:157, 159.
nyssaefoliella, bibliography, 11:157; larva and its mine, 11:158; larva described, 11:157-58; life history, 11:158, 159; moth described, 11:157; pupating cases, 11:158; reference, 10:510; 12:357; 14:395³; remedy, 11:159.
Antithesia nimbatana, see *Penthina*.
Anurida maritima, 2:210.
anxius, *Agrilus* (syn. *A. torpidus*), 5:283, 317; 10:407; 14:339⁶.
Apamea, 1:71, 115.
Apanteles congregatus, 2:229; 4:201, 202; 5:177, 307, 324; 7:364; 8:111, 187; 9:461; 10:509, 515; 11:142; 12:354, 359; 14:333³, 350⁷, 351², 355³, 366³, 394.
var. atalantae (syn. *Microgaster atalantae*), 2:39.
var. pieridis (syn. *Microgaster pieridis*), 3:135.

- Apanteles congregatus* var. *rufocoxalis* (syn. *A. rufocoxalis*), 9:461.
gelechiae, see *Microgaster*.
limenitidis, 12:210.
militaris, 8:238; 12:210.
rufocoxalis, see *A. congregatus* var.
Apate bicaudatus, see *Amphicerus*.
rufipennis, see *Polygraphus*.
Apatelodes angelica, 9:455; 14:313.
Apathus, 11:104.
Apatura cocles, see *Chlorippe*.
herse, see *Chlorippe clyton*.
lycaon, see *Chlorippe celtis*.
Apgar, A. C., cited, 9:300.
Aphaniptera, 1:79.
Aphelinus, 11:232.
mytilaspidis, 1:61.
Aphididae, catalogue of, Fitch, 9: 411-13; general account (abstract) 4:194; 6:171; list of, Oestlund's, 4:176; on apple, 11:271; reference, 1:4, 300; 3:121, 124; 8:254, 281; 9:319, 381; 10:430; 11:200; 14: 347⁵, 361², 400³; species treated, 2:180-87; 3:112-28; 5:246-57; 6:147-48; 10:426-30; 12:290-92; 13:361⁸-63⁷. See also Plant lice.
Aphidiinae, subfamily of Braconidae, 5:253.
Aphidius destroying aphids, 1:302.
Aphidius avenae, of Europe, 5:253.
Aphidivorous Ichneumonidae, 5:253.
Aphids, abundance of, 3:83, 116, 145; 10:426-29; 12:352; aphid lion destructive to, 1:302; black ants associated with, 9:370-71; 10:365, 366, 391; caterpillar feeding upon, 9:346; Chalcids parasitic upon, 1:160; destroyed by rains, 10:489; hibernation of, 1: 317; honey dew of, 3:118; 5:304; 10:366; injuries by, 3:125; lace winged fly preying upon, 10:429; lady bugs preying upon, 1:302; 4: 85, 194; 7:217, 429; losses caused by, 3:84; potatoes attacked by, 3:121, 122; pyrethrum fatal to, 1: 40; rapid multiplication of, 1:302; 3:144; 8:267; reference, 10:368, 498, 505; 11:225; 14:383⁹, 393⁶; remedies for, 2:38; 7:318; 8:274; 9:372, 431-32, 441; 10:367; root infesting, 9:371; spiders eating?, 10:429, 430; Syrphid larvae preying upon, 1:212; woolly, 1:43; 2: 181; 3:124, 125; 4:179; 5:160.
Aphis, dilute paraffin for, 1:46; injury to currant leaves, 1:272; on hops, 1:319; on peach roots, 2:19; on potatoes, 8: 299; parasitized by Aphidius, 1:302; poisonous secretion of, 1:314; prolificacy of, 1:14; reference, 10:491, 494; soluble phenyle for, 1:49.
black, 5:254.
Aphis aceris, see Chaitophorus.
asclepiadis (syn. *Siphonophora*), 9:405, 411.
avenae, see *Nectarophora granaria*.
berberidis, see *Rhopalosiphum*.
betulaecolens, see *Callipterus*.
brassicae, 1:296; 6:147; 7:317, 372; 9:405, 412, 440; 10:495; 14:319⁹, 368², 374⁶, 378², 381¹.
carotae, of Europe, 3:123.
cerasi, see *Myzus*.
cerasicolens, 9:405, 411, 412.
cerasifoliae, 9:411.
cerealis, see *Nectarophora granaria*.
chrysanthemi, of Europe, 2:20, 21.
cornifoliae, 9:405, 412.
crataegifoliae, 9:406, 412.
cucumeris, see *A. gossypii*.
dauci, of Europe, 3:123, 151.
gossypii (syn. *A. cucumeris*), 5: 306, 326; 8:210, 283; 10:497; 11:168; 14:355⁶, 371⁵, 382⁶.
granaria, see *Nectarophora*.
hordei, see *Nectarophora granaria*.
humuli, see *Phorodon*.
lanata, 9:320.
lanigera, see *Schizoneura*.
mali, abundance, 3:83, 145; 8: 123; 10:426, 427, 489; depre- dating on apple trees, 1:331; 11:271; 13:363²; general ac- count, 1:317; 3:118-21, 143; reference, 1:8, 302; 6:148; 8: 281, 285; 9:293, 373, 405, 412; 10:503, 512; 12:191, 203, 307; 13:367⁴; 14:343³, 344⁸, 344⁶, 352³, 370⁶, 372², 378⁷, 387⁴, 397⁴, 400⁴; remedies, 5:160, 161; 8: 217; 9:431, 432.
malifoliae, 1:331; 9:412; 11:271.
middletonii, 9:371, 441; 10:501; 14:375⁸, 385⁸.
nerii Kalt., of Europe, 3:122.
persicae-niger, see *A. prunicola*.
pinicolens, 9:406, 412.
populifoliae, see *Chaitophorus*.
pruni, erroneous reference of *A. prunifoliae*.
pruni-mahaleb, see *Phorodon humuli*.
prunicola (syn. *A. persicae-niger*, *Myzus persicae*), 2:19-23; 5:256, 315; 9:369; 11:279; 14:338⁶, 389⁷.

- Aphis prunifoliae* (*A. pruni* in error), 8:125, 299; 9:369; 11:277; 12:350; 14:388⁶, 392³.
ribis, see *Myzus*.
rudbeckiae, see *Nectarophora*.
rumicis, 9:440; 14:375³.
sambucifoliae, 9:406, 412.
silybi *Pass.*, of Europe, 3:122.
solannina *Pass.*, of Europe, 3:122.
- Aphis* lion, 1:302.
- Aphodius fimetarius*, 3:103; 7:312, 379, 383; 4:440; 13:373⁴; 14:374⁵.
fossor, 3:103; 7:379.
inquinatus, 3:102-3; 7:379; 14:323⁵, 352⁵.
prodromus, 7:312.
species, 12:361.
- Aphorura armata* (syn. *Lipura fimetaria*), 2:208-10; 6:173; 7:374; 11:253; 14:320⁷, 324⁴, 342⁹.
- Aphritis globosus*, see *Microdon*.
- aphrodite*, *Argynnis*, 4:136; 5:285; 7:219.
- Aphrophora*, four-spotted, 9:392.
- Aphrophora parallela* (syn. *Lepyronia*), 1:285; 4:121; 5:245; 9:393, 410.
quadrangularis, see *Lepyronia*.
quadrinotata, 5:245; 9:392.
saratogensis (syn. *Lepyronia*), 1:285; 4:121; 9:393, 410.
signoreti, 5:245.
- apicalis*, *Melalopha*, (syn. *Ichthyura* *vau*), 9:455; 14:313⁵.
- apicosa*, *Erastris*, 10:482.
- Apidae*, 5:284; 7:219; 10:359; 11:103, 104; number of species, 11:103; reference, 5:284; 7:219; 10:359; social members, 11:104; state collection of, 11:104.
- apiformis*, *Microdon*, of Europe, 2:116.
- apivora*, *Trupanea*, see *Promachus fitchii*.
- apivorus*, *Promachus*, see *P. fitchii*.
Trichodes, 3:138.
- Aplodes glaucaria*, see *Synchlora*.
rubivora, see *Synchlora glaucaria*.
- Apocynum androsaemifolium* eaten by *Pyrausta nubilalis*, 11:139.
- appendiculatus*, *Gymnonychus* (syn. *Pristiphora grossulariae*), 2:5.
- Apple blossoms, army worm moths on, 12:202.
- Apple flies (*Drosophila*), 1:219.
- Apple leaf *Bucculatrix*, distribution, 1:158-59; 5:261-62; 8:123; general account, 1:157-62; 5:260-62; parasites, 1:159-61; 10:369; *Psocus* bred from cocoons, 1:161-62; reference, 1:330; 2:224; 4:200 5:317; 6:174-75; 7:354, 359; 8:135, 136, 137, 218, 281, 283; 9:445; 11:267; 12:307, 360; 14:325², 331², 335⁷, 339⁶, 349⁷, 363², 364⁷, 369², 370⁷, 373⁴, 376⁹; remedies, 1:162; 5:262; stages of, 1:157-58.
- Apple leaf folder, 1:329; 11:266; lesser, 1:329; 11:121.
- Apple leaf hopper, green, 11:271.
- Apple leaf *Micropteryx*, 1:330; 11:267.
- Apple leaf miner, 1:330; 7:354; 9:445; 11:160-62, 267; 12:357.
- Apple leaf sewer, 8:123.
- Apple leaf skeletonizer, 1:329; 11:266.
- Apple leaf tyer, green (*Teras minuta*), 1:329; 11:266.
- Apple maggot (*Trypeta pomonella*), distribution, 2:121-22; 8:246-47; fly described, 2:119-20; 8:245; general account, 2:117-25; 8:245-49; larva, habits, etc., 2:118-19; 122-23; 8:246, 247; life history, 2:120-21, 124; 8:245-46, 248-49; reference, 1:330; 2:227, 234; 5:300; 8:116; 10:499; 11:267; 14:336⁷, 342⁶, 353², 384⁵, 391³; remedial measures, 2:123; 8:247-48; 12:347, 348.
- Apple midge, 1:219, 330; 2:125; 10:388, 391; 11:267.
- Apple root blight, 9:408.
- Apple root plant louse, 1:47, 331; 11:271.
- Apple scab, 4:185.
- Apple sphinx, 1:327; 11:264.
- Apple thrips, 1:332; 11:271.
- Apple tree, insect depredators on, list of, 1:327-32; 11:263-72; insects injurious to;
Acronycta species, 5:321.
Alaus oculatus, 4:142; 9:448.
Alsophila pometaria (syn. *Anisopteryx*), 4:15, 139; 13:365⁸, 370⁷.
Amphicerus bicaudatus, 1:312; 2:125; 9:447.
Anarsia lineatella, 1:155.
Anomala marginata, 10:412.
Aphis mali, 1:317; 3:83, 118-21, 143, 144, 145, 146; 5:161; 8:123, 217, 281, 285; 9:293, 373, 405, 431, 432; 10:426, 427, 489; 12:307; 13:363.
Aspidiotus juglans-regiae, 12:316.
perniciosus, 11:206, 207, 224, 287, 12:316, 363; 13:374⁷.
Aspidisca splendoriferella, 11:159.

- Apple tree, insects injurious to;
Balsa malana (syn. *Nolophana*), 12:312.
Bucculatrix pomifoliella, 1:157; 2:224; 5:260, 317; 6:174; 7:216, 354, 368, 382; 8:123; 9:445; 10:510; 12:307, 360; 14:331³.
Cacoecia argyrospila, 7:356; 9:374.
rosaceana, 11:121; 12:312, 360.
Camponotus herculeanus, 10:365.
Carneades messoria (syn. *Agrotis*), 11:121.
scandens (syn. *Agrotis*), 11:121.
Carpocapsa pomonella, 1:35, 58; 2:229; 4:152; 5:316; 8:174, 245, 290, 297; 9:296, 388-42, 422; 14:371.
Catocala grynea, 11:121.
ultronia, 11:121.
Ceresa bubalus, 1:315, 318; 4:146; 8:294.
Chauliognathus marginatus, 4:84.
Chionaspis furfurus, 8:293, 299; 9:440, 464; 11:203, 288; 12:348; 13:368⁵; 14:316⁶.
Chrysobothris femorata, 1:303; 2:25, 27; 10:488; 12:356; 13:365⁴.
Cicada septendecim, 2:176; 12:272, 273, 274, 287.
Clisiocampa americana, 3:85; 5:152; 6:106; 7:215; 8:122; 9:441; 11:121; 12:307, 353; 13:366³; 14:328³.
disstria (syn. *C. sylvatica*), 3:91, 147.
Coleophora, 8:297.
fletcherella, 9:374; 12:307, 360.
malivorella, 1:163; 2:225; 6:178; 11:122.
Conotrachelus nenuphar, 2:13; 4:201; 11:122.
Crepidodera rufipes, 4:101-3, 196; 14:348⁵.
Datana integerrima, 12:309.
ministra, 1:320; 5:307.
Dolerus sericeus, 4:197.
Drosophila, 2:124.
amoena, 1:221.
Elaphidion villosum (syn. *E. parallelum*), 9:359; 12:314, 362.
Ennomos subsignarius, 11:121.
Euphoria inda, 1:237.
Exartema malana (syn. *Eccopsis*), 11:121.
Gryllus abbreviatus, 8:179.
- Apple tree, insects injurious to;
Halisidota caryae, 7:355; 8:296.
Hymenorus obscurus, 2:226; 6:129, 130.
Hyphantria cunea (syn. *H. texator*), 1:306; 3:93.
Icerya purchasi, 4:187.
Ithycerus noveboracensis, 1:331.
Leptocoris trivittatus, 4:158; 10:433.
Leptostylus aculiferus, 1:304.
Lycia cognataria (syn. *Amphidasys*), 2:101; 14:332³.
Lygus pratensis, 14:353².
Macrodactylus subspinosus, 1:229; 4:142, 198; 9:420; 12:362.
Megalopyge opercularis (syn. *Lagoa*), 4:51.
Mermis acuminata, 4:127.
Mineola indigenella, 11:121.
Monarthrum mali, 7:316, 370; 9:440; 14:318⁸.
Mytilaspis pomorum (syn. *M. pomicorticis*), 2:232; 3:146; 4:114; 8:286, 293; 9:373, 411; 11:202; 12:348; 14:316⁹.
Noctua clandestina (syn. *Agrotis*), 11:121.
Notolophus leucostigma (syn. *Orgyia*) 2:68; 5:321; 11:121.
Oecanthus fasciatus, 10:486.
niveus, 9:464; 10:486; 14:316⁷.
Paleacrita vernata (syn. *Anisopteryx*), 1:33; 2:7, 44; 3:93; 4:139; 5:258; 11:121; 12:311; 13:374⁷.
Peridroma saucia (syn. *Agrotis*), 5:201, 205; 11:121.
Phobetron pithecium, 5:187, 306.
Phoxopterus nubeculana, 8:123, 297.
Polycaon confertus, 2:132.
Porthetria dispar (syn. *Ocneria*), 7:304.
Prionus laticollis, 4:22.
Psocus venosus, 1:161.
Psylla mali, 9:323.
pyricola (syn. *P. pyrisuga*), 1:331.
Saperda candida, 2:25, 27; 3:105; 5:269, 320; 7:313; 9:440; 10:488; 12:356; 13:365⁵.
Schizoneura lanigera, 1:331; 2:181; 3:125; 6:160; 9:40, 407, 411, 412; 13:366⁹.
Schizura concinna (syn. *Oedemasia*), 3:90, 91, 150; 5:309; 8:292; 14:312³, 316², 346¹.
Sciara mali (syn. *Molobrus*), 2:125, 227; 10:391; 14:332⁴.

- Apple tree, insects injurious to;
Scolytus rugulosus, 4:104, 186;
 11:287; 12:362.
Sphinx drupiferarum, 10:496.
Systema hudsonias, 13:373.
Tachypterus quadrigibbus (syn.
Anthonomus), 6:174; 9:419.
Teras minuta, 11:121.
Thrips tritici, 11:250.
Thyridopteryx ephemeriformis, 1:84.
Tischeria malifoliella, 3:137,
 140; 6:187; 7:354; 9:445, 462;
 11:160; 14:376.
Tmetocera ocellana, 4:14; 7:216,
 306, 360, 363, 382; 8:124, 218,
 297; 9:296, 373, 462; 10:488;
 11:121; 12:307.
Tremex columba, 4:38.
Trypeta pomonella, 2:118, 227,
 234; 8:245, 249; 10:499; 12:
 347.
Xyleborus dispar (syn. *X.*
pyri, *X. obesus*), 1:310; 3:
 141; 5:318; 6:350, 361, 370.
Ypsolophus pometellus (syn.
Chaetochilus), 1:300.
Zeuzera pyrina, 9:426.
- Apple tree aphid, abundance, 10:
 426, 490; general habits, 1:317-
 18; 3:118-21; 10:490; life history,
 3:119-20; prolificacy, 3:119; refer-
 ence, 1:8, 302, 331; 3:81, 143, 144,
 145; 4:103, 204; 5:103, 300; 6:148;
 7:345; 8:217, 281, 285; 9:373, 405,
 434; 10:512; 11:271, 273; 12:307;
 13:363², 367³; 14:344⁹, 352³, 353³,
 362⁴, 370⁶, 372², 378⁷, 379¹, 387⁴,
 397⁴; remedies, 3:120-21, 144, 145-
 46; 5:160-63; 8:217; 11:273;
 unusual abundance, 3:118; 8:123.
- Apple tree bark beetle, 1:331; 7:
 316, 370; 9:440; 11:270; 14:374⁹.
- Apple tree bark louse or scale, 1:316,
 331; 4:114-20, 195; 5:319; 6:165;
 9:375; 11:201, 202, 271, 273-74,
 277, 288; 13:374³; 14:334⁷, 340⁶,
 344³, 347⁹, 357⁶, 359¹, 372⁵, 387⁴,
 388⁸.
- Apple tree blight, 9:407.
- Apple tree blossom weevil, 11:270.
- Apple tree borer, 1:64, 308, 312, 316;
 2:25, 26, 27; 3:105; 4:107; 10:
 488; 12:356; 13:365⁴, 366²; 14:
 378⁴, 394⁹, 396³.
 flat-headed, 1:58, 330; 2:25, 225;
 6:154; 7:379; 11:267; 12:356.
 round-headed, 1:58, 331; 2:27;
 5:269, 320; 7:313; 9:440; 11:
 269; 12:239, 245, 246, 356; 14:
 340⁹, 374⁵.
- Apple tree bud worm, 1:329; 11:
 121, 266.
- Apple tree case bearer, 1:163-67,
 329; 2:225; 6:178; 8:123, 217, 281,
 297; 11:122, 267; 12:307, 360; 14:
 326⁹, 331³, 335⁷, 370⁶.
- Apple tree caterpillar, red humped,
 1:57, 328; 3:90-91, 150; 4:204; 5:
 309; 11:265; 14:352², 356²; yellow
 necked, 1:57, 320, 328; 2:83; 11:
 264; 14:356¹; many dotted, 11:265;
 tent caterpillar; attacking
 maples, 6:166; collecting the
 tents, 1:57; destroying eggs of, 1:
 56; 9:436-37; reference, 1:85, 328;
 2:83; 3:85; 5:241; 7:331, 359; 8:
 122; 9:293; 10:495; 11:121, 265,
 281; 12:307, 353; 13:366², 369³;
 14:354⁴, 358⁹, 359⁴, 364⁷, 375³, 376¹,
 380⁹, 390⁴, 393⁹, 396⁹, 398²; reme-
 dies, 5:304; 6:106; 7:215; 9:432,
 436-37, 441; unusual abundance,
 5:152; 6:106; 7:215; 9:436-37.
- Apple tree curculio, 1:60, 331; 4:
 201; 6:174; 9:419; 11:270; 14:324⁶.
- Apple tree flea beetle 11:269.
- Apple tree pruner, 1:330; 11:268.
- Apple twig borer, 1:330; 2:125-32;
 9:447; 11:268; 14:342⁷.
- Apple worm (*Carpocapsa pomonel-*
la), attacking quinces, 2:12; Mer-
 mis parasitic upon, 4:127; 8:290;
 reference, 1:219; 2:118, 120, 122,
 124; 4:152; 5:300, 305, 321; 6:
 104; 9:296, 422; 10:391; 11:121,
 133; 12:360; 14:371¹; remedies, 1:
 35-36, 58, 60, 63; 2:123; 8:282;
 soldier beetle larvae feeding upon,
 4:85, 86, 87; 5:316; 9:344.
- Apricot, insects injurious to;
Aspidiotus perniciosus, 11:206,
 223.
Carpocapsa pomonella, 9:340;
 14:371.
Icerya purchasi, 4:187.
Otiorhynchus tenebricosus, 2:
 52.
Phobetreron pitheciun, 7:382.
Telephorus bilineatus, 8:174.
Thyridopteryx ephemeriformis, 1:84.
Xyleborus dispar (syn. *X. pyri*),
 1:310.
- Aptera, 1:79; 11:252.
- apterus, *Bittacus*, 10:474, 478.
- aquatica, *Podura*, 2:210; 7:374; 11:
 253.
- Aquilegia*, see *Columbine*.
- aquilonaris*, *Cerura*, see *C. scolopen-*
drina.
- Arachis hypogaea*, see *Groundnut*.
- Arachnida*, 6:156; 8:302; 9:466; 10:
 449-60, 513; 11:272, 288; 14:368³.
- Arachnoidea*, 5:290.

- Aramigus fulleri*, 2:142-44; 4:193; 5:154, 311, 325; 14:337¹, 342⁷, 347⁴.
- Araneidae, not known to inflict wounds, 4:114.
- araneoides, Cermatia, 4:133.
- Arbor day manual*, abstract from, 14:388¹.
- Arbor vitae, number of insects injurious to, 4:20; Siberian mites injuring, 4:201;
- insects, etc., injurious to;
- Bryobia pratensis*, 7:322.
- Cicada septendecim*, 2:176.
- Hylesinus opaculus*, 4:144.
- Tetranychus telarius*, 4:203; 14:350⁹, 351⁴.
- Thyridopteryx ephemeraeformis*, 1:72, 81, 84; 4:21; 6:177.
- arborum-linearis, Coccus, *see* *Mytilaspis pomorum*.
- Archasia galeata* (syn. *Smilia auriculata*), 9:389, 410.
- Arched filaments of *Diplosis*, 11:166, 168.
- archippivora, *Frontina* (syn. *Masicera*), 8:238.
- Masicera*, *see* *Frontina*.
- archippus, *Basilarchia* (syn. *Limenitis disippus*), 1:327; 2:220; 4:137; 10:507; 11:264; 14:309⁵.
- Danais*, *see* *Anosia plexippus*.
- Archiv der Naturgeschichte* (Wiegman's) cited, 10:453.
- Arctia arge, *see* *Euprepia*.
- caja* (syn. *Euprepia*, *E. americana*), 9:452; 14:312³.
- isabella*, *see* *Pyrrharetia*.
- parthenice* *see* *Euprepia*.
- phyllira*, *see* *Euprepia*.
- virgo*, *see* *Euprepia*.
- arctiae, *Ophion*, 7:228; 12:183, 189.
- arctica, *Hadena*, *see* *Xylophasia*.
- Mamestra*, *see* *Xylophasia*.
- Xylophasia* (syn. *Hadena*, *Mamestra*), 1:8; 5:212; 9:447; 10:482; 14:311¹.
- Arctiidae, species treated of, 12:183-89.
- Arctium lappa, *see* *Burdock*.
- arcuata, *Corythuca* (syn. *Tingis*), 1:311; 4:108; 11:270.
- Tingis*, *see* *Corythuca*.
- arcuatus, *Syrphus*, 11:284.
- Argas americanus*, 6:158.
- persicus*, 6:158.
- arge, *Arctia*, *see* *Euprepia*.
- Euprepia* (syn. *Arctia*), 9:455; 14:313⁵.
- argentifrons, *Miltogramma*, 12:210.
- argentina, *Mantis*, 4:162.
- argillacea, *Aletia* (syn. *A. xyлина*), 1:7, 35, 58, 117, 328; 2:220; 4:206; 11:266; 12:342.
- Argus* [Albany], abstract from, 12:352; 13:368⁹; 14:310⁴, 315⁴, 334⁷, 334⁸, 340⁴, 341⁷, 348⁴, 393⁷; cited, 2:149, 232, 233; 4:151, 196; 5:318, 322; 8:291, 292; 9:299, 446; 12:190, 253.
- argus, *Chelymormpha*, 4:14, 201, 207; 6:188; 10:516, 517; 14:350⁸.
- Argynnis, scarcity of, 12:308.
- Argynnis aphrodite, 4:136; 5:285; 7:219.
- atlantis*, 4:136; 5:285; 7:219; 12:308.
- bellona*, *see* *Brenthis*.
- cybele*, 4:136; 5:285.
- myrina*, *see* *Brenthis*.
- species*, 2:214.
- Argyroaoba simson*, 8:300.
- Argyresthia andereggiella*, 11:267.
- Argyrolepis pomoriana*, *see* *Ypsolophus pometellus*.
- sylvaticana*, *see* *Ypsolophus pometellus*.
- Argyromiges pseudacaciella*, *see* *Lithocolletis robinella*.
- argyrospila, *Cacoecia* (syn. *Tortrix furvana*), 1:329; 5:324; 7:356; 9:374; 10:483; 11:266.
- Arhopalus speciosus*, *see* *Plagionotus*.
- Aricia fusciceps*, *see* *Phorbia*.
- Arkansas agricultural experiment station. *Bulletin* cited, 10:478.
- Arma grandis*, *see* *Podisus cynicus*.
- spinosa*, *see* *Podisus*.
- armata*, *Aphorura* (syn. *Lipura fimetaria*), 2:208-10; 6:173; 7:374; 11:253; 14:320⁷, 324⁴, 342⁹.
- armatus*, *Urosalpinx*, 12:271.
- armicollis*, *Magdalis*, 12:246.
- armiger*, *Heliothis*, *see* *Heliothis armiger*.
- Army worm, abstracts of Fitch's papers on, 1:312, 313, 314; bibliography, 12:190-94; counties injured by, 12:195; description of the various stages, 12:200-2; distribution, 12:199-200; eggs of, 6:176; figures, 12, plates II, III and IV, fig. 2; food habits, 12:205-6; general notice, 2:42-44; life history and habits, 12:202-5, 206-7; natural controlling agents, 12:208-11; parasites, 1:146; preventives and remedies, 1:33, 53, 58; 8:265; 9:443; 12:211-14; ravages in New York state, 12:194-98, 199, 309, 310; ravages in other states, 12:198-99; references, 1:127, 128, 131-32, 133,

- 135, 147, 226; 4:139, 163; 6:179-80; 7:373, 376; 10:490; 11:145; 12:177, 352, 353, 360; 13:332², 368¹; 14:316⁸, 320³, 322², 325⁷, 376², 379³, 393⁷, 393⁸, 394¹, 394², 397⁷, 399³.
 fall, 1:328; 11:265.
 wheat head, 14:379⁹, 399³.
 "Army worm" (*Sciara* species), 5:264; 10:388, 389, 390.
 (Crambus), 14:327⁶, 327⁸.
Arphia sulphurea, 9:330.
arquata, *Carynota*, *see* *Vanduzea*.
Vanduzea (syn. *Carynota*), 9:388, 410.
arsace, *Thecla*, *see* *Incisalia irus*.
 Arsenical spray, fatal to bees on potatoes, 11:118; not injuring animals, feeding under sprayed trees, 14:397³;
 spraying of fruit trees in blossom; 12:357; apple pests to be combated at this time, 11:120-22; blighting of blossoms, 11:119; honey bees killed, 11:117-18, 122-24; 14:395⁹; legislation against, 11:119; Prof. Cook's experiments, 11:118; Prof. Webster's experiments, 11:117-18, 122; satisfactory examinations, 11:118; urgency of, 11:120.
Artace punctistriga, 8:287; 14:373².
arthemis, *Basilarchia*, (syn. *Limenitis*), 4:137; 7:219; 10:507; 11:264; 14:309⁵.
Limenitis, *see* *Basilarchia*.
Arthemis butterfly, 11:264.
arvalis, *Smynthurus*, 11:272.
arvensis, *Delphax*, *see* *Liburnia*.
Dolerus, 3:89; 4:197; 13:371⁴; 14:348⁸.
Liburnia (syn. *Delphax*), 9:386, 410.
Asaphes decoloratus, 8:200.
Ascalaphidae, 11:240.
Ascalaphinae, U. S. species, 11:239.
Ascalaphus hungaricus (syn. *A. macaronius*), 11:239, 240.
 insimulans, *see* *Helicomitus*.
 longicornis, 11:239, 240, 241.
 macaronius, *see* *A. hungaricus*.
 macleayanus, 11:240.
 species, 11:239, 240, 241.
Ascaris lumbricoides, 9:298.
asclepiadis, *Aphis* (syn. *Siphonophora*), 9:405, 411.
Siphonophora, *see* *Aphis*.
Asclepias, *see* *Milkweed*.
Asellus stygius, 9:348.
 Ash, insects injurious to;
 Dynastes tityus, 2:227; 5:230, 321; 7:251; 9:342.
 Fall web worm, 1:306.
 Ash, insects injurious to;
 Halisidota caryae, 7:355.
 Heraclides crespontes (syn. *Papilio*), 9:337.
 Hylesinus opaculus, 4:144.
 Leptocoris trivittatus, 4:157; 10:438.
 Mytilaspis pomorum, 11:202.
 Phobetron pithecium, 5:187.
 Podosesia syringae, 9:338.
 Xyloryctes satyrus, 7:251.
 black, *Dynastes tityus* injuring, 7:252.
 mountain, *see* *Mountain ash*.
 prickly, *see* *Prickly ash*.
 water, *see* *Ash*, black.
 Ashmead, W. H., cited, 4:42; 9:317; 11:127, 134; 12:192; quoted, 11:136-37; referred to, 11:131; *Orange insects* cited, 2:203; 11:241, 248.
 Ashmolean society, *Proceedings* cited, 4:151.
 Ashton, T. B., cited, 2:203; 5:246; quoted, 2:204.
 Asilidae, 1:319; 11:117.
Asopia costalis, *see* *Pyralis*.
 farinalis, *see* *Pyralis*.
asparagi, *Crioceris*, *see* *Asparagus beetle*.
Asparagus, insects injurious to;
 Bibio albipennis, 2:113.
 Crioceris asparagi, 3:146; 6:167, 179; 7:335; 8:250; 9:342, 343; 10:517; 12:249, 251-52.
 12-punctata, 10:517; 12:249, 250.
 Leucania unipuncta, 12:206.
 Mamestra picta, 5:209.
Asparagus beetle (*Crioceris asparagi*), allied species, 1:243-44; 8:250; bibliography, 1:259; 11:177, 178; description, 1:241-43; 8:250; destructiveness, 1:9; distribution, 11:178-81; 12:251, 252, 314, 315; general account, 1:239-46; 6:179; introduction, 1:8, 9, 240, 315; 7:335; 8:251; 9:342, 343; limitation by life zones, 11:180, 181; natural history, 1:244-45; 8:251-52; reference, 1:316, 322; 2:135; 6:188; 8:116, 221; 10:498, 517; 11:277, 286; 12:249, 250, 356, 357, 362; remedies, 1:59, 61, 245-46; 3:146; 8:252, 253; 11:181; 13:373³; 14:327⁴, 344⁷, 351⁵, 360¹, 383³, 389², 395⁷, 399⁵; spread, 1:240-41; 4:203; 6:167, 179; 8:251; 9:343.
 twelve spotted (*Crioceris 12-punctata*), bibliography, 12:248, 249; distribution, 12:251;

- distribution of *C. asparagi*, 12:251, 252; figure, 12:250; insect described, 12:249, 250; introduction, 12:251; life history and habits, 12:250, 251; Monroe county invaded, 12:249; reference, 1:244; 8:250; 10:517; remedies, 12:252.
- Aspidiotus ancylus*, 11:213, 271, 275, 287; 14:388³.
- aurantii*, 1:60; 4:188.
- camelliae*, 11:271.
- circularis*, *see* *Diaspis pyri*.
- conchiformis*, *see* *Mytilaspis pomorum*.
- forbesi*, 11:271.
- harrisii*, *see* *Chionaspis furfurus*.
- juglandis*, *see* *Mytilaspis pomorum*.
- juglans-regiae*, 11:271; 12:316.
- nerii*, 2:32; 5:278, 317; 8:214; 11:203-4, 287; 14:339⁹, 363⁴, 369⁷.
- ostreaeformis*, 11:271.
- perniciosus*, 1:332; 10:505, 518; 11:206-33, 275, 277, 287; 12:316, 356, 357, 363; 13:368⁸, 374⁷; 14:386⁹, 388⁸-89⁹, 395², 397⁹. *See also* San José scale.
- pinifoliae*, *see* *Chionaspis pomorum*, *see* *Mytilaspis*.
- rapax*, 11:271.
- tenebricosus*, 10:518; 11:221.
- Aspidisca splendoriferella*, 1:166, 330; 8:283; 11:159, 267; 14:371⁴.
- Aspilates coloraria*, *see* *Catopyrrha*.
- Aspinwall, John, insects from, 6:189.
- Aspinwall, W. F., insects from, 11:287.
- assimilis*, *Ceutorhynchus*, 1:195.
- Mamestra*, 1:328; 11:265.
- Association of economic entomologists, 11:103, 181, 189; 14:306⁴.
- Aster, insects injurious to:
- Aphis middletonii*, 9:371, 441; 10:501; 14:375⁵, 385³.
- cut worms, 8:236.
- Epicauta pennsylvanica*, 6:135; 9:463; 10:496; 11:286.
- Hydroecia nitela* (syn. *Gortyna*), 1:112; 8:191.
- Mamestra picta*, 5:209.
- China, insects injurious to:
- Epicauta pennsylvanica*, 11:281; 14:390⁴.
- Lygus pratensis*, 14:353⁹, 353⁹.
- asterias*, *Papilio*, *see* *P. polyxenes*.
- asteroides*, *Cucullia*, 9:455; 10:482; 14:313⁴.
- Asterolecanium quercicola*, 10:519.
- astyanax*, *Basilarchia* (syn. *Limenitis ursula*), 1:327; 11:264.
- atalanta*, *Pyrameis*, *see* *Vanessa*.
- Vanessa* (syn. *Pyrameis*), 2:39; 4:137; 5:285; 9:454; 12:308.
- atalantae*, *Microgaster*, *see* *Apanteles congregatus*, var.
- aterrima*, *Paria*, *see* *Typophorus canellus*.
- Phora*, 10:405.
- Athysanus abietis*, *see* *Bythoscopus variabilis*.
- curtisii* (syn. *Amblycephalus*), 9:401, 410.
- fagi*, *see* *Bythoscopus*.
- fenestratus*, *see* *Bythoscopus*.
- minor*, *see* *Bythoscopus*.
- nigrinasi*, *see* *Bythoscopus*.
- variabilis*, *see* *Bythoscopus*.
- Atkinson, G. F., cited, 4:103; 5:227.
- atlanis*, *Caloptenus*, *see* *Melanoplus*.
- Melanoplus* (syn. *Caloptenus*), 1:332; 2:196; 6:151; 8:180; 9:332; 10:440, 441, 443, 496; 11:271; 14:381⁵.
- atlantis*, *Argynnis*, 4:137; 5:285; 7:219; 12:308.
- atomarius*, *Bruchus*, 7:268, 282, 284.
- atomus*, *Crypturgus*, *see* *C. pusillus*.
- atra*, *Clastoptera*, 9:394.
- atramentaria*, *Pollenia*, of Europe, 9:313.
- atrata*, *Anomala*, *see* *A. lucicola*.
- Cantharis*, *see* *Epicauta pennsylvanica*.
- Lyta*, *see* *Epicauta pennsylvanica*.
- Melolontha*, *see* *Anomala lucicola*.
- Rhyssa*, *see* *Thalessa*.
- Tachina*, 7:364; 11:285.
- Thalessa* (syn. *Rhyssa*), 2:227, 230; 4:37, 40, 41; 5:305; 9:454; 10:509; 11:279, 284; 13:367⁹, 371³; 14:332⁵, 333⁷, 355³, 389⁶, 397⁶.
- atratus*, *Chermes*, *see* *C. strobilobius*.
- Tabanus*, 7:364; 11:285; 13:372⁷; 14:366⁹.
- atrifasciata*, *Homohadena*, *see* *Oncoenemis*.
- Oncoenemis* (syn. *Homohadena*), 5:285.
- Atropos divinatoria* (syn. *Liposcelis museorum*, *Termes*, *Troctes*, *T. fatidicus*), 1:65, 161; 2:198-202; 3:139; 14:342⁹.
- pulsatorius*, *see* *Clothilla pulsatoria*.
- Attacinae*, 1:340; 6:184; 14:330³.

- Attacus cecropia*, *see* *Samia*.
imperialis, *see* *Basilona*.
promethea, *see* *Callosamia*.
Attagenus dichrous, *see* *A. piceus*.
megatoma, *see* *A. piceus*.
pellio, 2:47, 138.
piceus (syn. *A. dichrous*, *A. megatoma*, *A. rufipennis*, *A. spurcus*), 1:64; 2:46-48, 138, 226; 6:120, 188; 7:377, 382; 9:299-306; 10:498; 11:276; 14:322², 332¹, 383⁴, 388⁵.
rufipennis, *see* *A. piceus*.
spurcus, *see* *A. piceus*.
Attalus scincetus, 11:267.
Attid spider, 10:430.
Attidae, 10:430.
Atwater, W. O., cited, 12:254.
Atymna castaneae (syn. *Smilia*), 9:389, 410.
inornata (syn. *Smilia*, *Cyrtolobus*), 1:284; 9:388.
querci (syn. *Smilia*), 9:389, 410.
Augochlora species, 9:461.
Aulacaspis rosae (syn. *Diaspis*), 7:384.
Aulacizes mollipes, *see* *Diedrocephala*.
noveboracensis, *see* *Diedrocephala*.
Aulacomerus ebenus, 4:46.
lutescens, *see* *Trichiocampus viminalis*.
aurantii, *Aspidiotus*, 1:60; 4:188.
aurata, *Cetonia*, 1:237.
auratus, *Chrysochus*, 4:142; 14:350², 357⁹.
aurichalcea, *Cassida*, *see* *Coptocycla bicolor*.
Coptocycla, *see* *C. bicolor*.
auricularia, *Forficula*, 11:272.
auriculata, *Smilia*, *see* *Archasia galeata*.
auripilis, *Limonius*, 7:351.
ausonius, *Nisoniades*, *see* *Thanaos*.
Thanaos (syn. *Nisoniades*), 9:449; 14:306⁸, 311⁷.
Austin, E. P., *Supplement to check list of the Coleoptera of America north of Mexico* cited, 1:233, 254; 2:142.
australasiae, *Periplaneta*, 12:363.
Automeris io (syn. *Hyperchiria*, *H. varia*), 1:72, 328; 4:206; 5:186; 6:187; 9:450, 453; 10:481; 11:265; 14:312⁴.
Avena fatua, *Nectarophora granaria* (syn. *Siphonophora avenae*) on, 5:252.
avenae, *Aphidius*, of Europe, 5:253.
Aphis, *see* *Nectarophora granaria*.
avenae, *Siphonophora*, *see* *Nectarophora granaria*.
avenaphis, *Praon*, 5:253.
Avery, T. G., insects from, 9:463.
avicularia, *Ornithomyia*, 1:299.
avium, *Dermanyssus*, 1:62; 3:129; 5:290.
Ayres, E. J., reference, 13:354¹.
Azalea, *Aramigus fulleri* on, 2:143.
Babcock, W. J., insects from, 4:206.
Backus, A. L., & Sons, insects from, 5:325.
Bacon, smoked, *Piophilha casei* infesting, 12:233.
Bacon beetle, 5:302, 313; 6:119-23; 8:279; 14:338¹, 353⁸, 369⁵.
badicollis, *Agrotis*, *see* *Semiophora elimata* var.
badistriga, *Homohadena*, 7:375; 14:321⁶.
Bag worm, classification, 1:83-84; distribution, 1:84; food plants, 1:84; 4:21; 7:306; general account, 1:81-87; 4:203-4; 5:321; 10:494; habits, 1:81-83; parasites, 1:84-86; reference, 1:328; 2:74; 9:440; 10:509; 11:265; 14:326², 335⁶, 341⁵, 351⁶, 374⁸, 380⁷; remedies, 1:33, 57, 87; Townsend's 11:264.
Bailey, J. S., insects from, 12:360.
baja, *Agrotis*, *see* *Noctua*.
Noctua (syn. *Agrotis*), 1:8, 340; 10:377.
bajulus, *Hylotrupes*, 4:20, 23.
Baker, C. F., cited, 11:242; 13:353³.
See also Gillette and Baker.
Balaninus caryatrypes, *see* *B. proboscideus*.
obtus, 12:271.
proboscideus (syn. *B. caryatrypes*), bibliography, 12:267-68; characteristics of the genus, 12:269; extent of injuries, 12:269; life history of the two species, 12:270-71; reference, 7:383; 10:501, 517; 14:384⁹, 399⁷; remedies and preventives, 12:271-72; two species attacking chestnuts, 12:269-70; value of crop affected, 12:268-69.
rectus 12:267-72; 14:399⁷. *See also* *B. proboscideus*.
uniformis, 12:268.
balanus, *Merodon*, *see* *Mallota posticata*.
Balderston, J. L., insects from, 4:205.
Ball, D. K., insects from, 10:510.
Ballard, H. H., insects from, 7:384; 11:288.

- Ballard, Mrs J. P., insects from, 3:140; 12:184.
- balluca, *Plusia*, 9:456; 10:376; 12:308; 14:313⁷.
- Balm of Gilead, insects injurious to;
Crepidodera helxines, 4:102.
Mytilaspis pomorum, 13:374⁸.
Notolophus leucostigma (syn. *Orgyia*), 2:76.
- Balsa malana (syn. *Nolophana*), 1:328; 11:265; 12:312, 356; 14:395².
- Balsam, insects injurious to;
 bark boring beetles, 2:53, 54, 9:440.
Cecidomyia balsamica, 4:60; 9:440.
 cut worms, 8:236.
Dendroctonus, 2:55.
 Geometrid larvae, 5:260.
Notolophus leucostigma (syn. *Orgyia*), 2:77.
Tomicus, 2:55.
 southern, *Cecidomyia balsamica* on, 7:307.
- Balsam *Cecidomyia*, 9:440; 14:374³.
- Balsam fir, bark boring beetles in, 2:54.
- balameus, *Tomicus* (syn. *Tomicus* species), 2:54.
- balsamica, *Cecidomyia*, 4:60-63; 7:307; 9:440; 14:308⁴, 357¹, 374³.
- balteatus, *Cerasphorus*, *see* *Chion garganicus*.
- Baltimore oriole feeding on army worm, 12:209.
- Bamboo, *Dinodorus bifoveolatus* in, 11:286.
- Banchus fugitivus*, *see* *Limneria fugitiva*.
- Banks, Nathan, *Synopsis catalogue and bibliography of the neuropteroid insects of temperate North America* cited, 8:155, 160; 11:234, 241; 12:298; (also cited as *Trans. Amer. Ent. Soc.* v. 19, 1892); notes by, 11:238; referred to, 11:105; 12:285, 299.
- Banks, R. L., insects from, 9:464; 10:517; 13:373⁶.
- barbata, *Cetonia*, *see* *Euphoria inda*.
- Barberry aphid, 1:296; 9:405.
- barda, *Mallota*, *see* *M. posticata*.
Milesia, *see* *Mallota posticata*.
 Merodon, *see* *Mallota posticata*.
- Baridius trinotatus, *see* *Trichobaris trinotata*.
- Bark beetle, 1:11; 4:185; 6:129; 14:332²; wood engraver, 11:270.
- Bark borers, 2:53-55; 5:300; 9:365, 367; 12:244, 353³.
- Bark lice, *Anthrribus variegatus* (syn. *A. varius*) feeding on, 1:259; 2:53; life history of species, 4:116-18; parasites, 1:61, 160; prolificacy, 4:115; reference, 1:11, 302; 2:184; 8:274, 293; 9:440, 447; 11:200; 14:311³; remedies, 2:25, 232; 4:118-20; 8:279; species treated, 4:114-20; spread, 4:185.
- Bark louse, oyster shell, 1:8; 4:116; 9:373; 11:201-2; 14:316⁷.
 scurfy, 1:331; 4:208; 5:326; 9:440; 10:518; 11:202-3, 271, 277, 288; 13:368⁴, 374⁹; 14:375³, 388⁸, 397¹.
- Barker, T. C., insects from, 5:326; 8:299; 11:165, 167.
- Barley, insects injurious to;
Agrotis segetum, 8:235.
 tritici, 8:235.
- Blissus leucopterus*, 2:157.
- Calandra granaria*, 1:304.
- Cephus pygmaeus*, 6:334.
- Chelymorphia argus*, 4:14; 14:350⁸.
- Isosoma hordei* (syn. *Eurytoma fulvipes*, *Pteromalus*), 1:304, 307; 4:29.
 tritici (syn. *Pteromalus*), 1:307.
- Leucania albilinea*, 12:310.
 unipuncta, 12:206, 309.
- Merisus fulvipes* (syn. *Pteromalus*), 1:307.
- Nectarophora granaria* (syn. *Siphonophora avenae*), 2:225; 3:114; 5:247, 251.
- Oscinis frit*, European, 1:225.
 glabra, European, 1:225.
 pumilionis, European, 1:225.
- Sitotroga cerealella*, 2:106.
- Barlow, J. G., cited, 7:297.
- Barnacle scale, 11:271, 287.
- Barnard, W. S., cited, 1:157, 163, 184; 8:160; 9:317; 12:254.
- Barnes, W. D., insects from, 5:326.
- Barrett, G. C., cited, 11:146; quoted, 11:149.
- Barrows, W. D., insects from, 13:372⁶.
- Barry, P., insects from, 3:141; 5:324, 326.
- Barry, W. C., insects from, 7:381, 384; 10:518; 11:205.
- basalis, *Oberea*, *see* *O. bimaculata*.
- Basilarchia archippus* (syn. *Limenitis disippus*), 1:327; 2:220; 4:137; 10:507; 11:264; 14:309⁵.
 arthemis (syn. *Limenitis*), 4:137; 7:219; 10:507; 11:264; 14:309⁵.
 astyanax (syn. *Limenitis ur-sula*), 1:327; 11:264.

- basilare, Sinoxylon, 1:330; 2:127, 130; 11:268.
- basilaris, Erythroneura, *see* Typhlocyba comes var.
- Basilona imperialis (syn. Ceratocampa, Citheronia, Dryocampa, Eacles), 2:232; 4:20, 21; 5:324; 9:447, 462; 10:481; 12:360; 13:342⁶-51³; 14:310⁷, 312⁴, 334⁶, 400⁴.
- Basket worm, *see* Bag worm.
- Bassett, H. F., insects from, 7:383; 9:461, 463.
- bassettella, Euclemensia, 12:317, 363.
- Bassus scutellaris, 12:211.
- Batchelor, Daniel, insects from, 8:298.
- Batrachedra salicipomonella, 12:360.
- Baudi, Flaminio, cited, 2:136; 7:280, 285.
- Bayer, J. W., insects from, 12:363.
- Bayley, E., insects from, 10:516.
- Bdellidae, 5:290.
- Beach, S. A. cited, 11:206.
- Beal's *Grasses of North America* cited, 11:146, 152.
- Bean, T. E. cited, 4:57; 7:225.
- Bean weevil, 2:49, 228; 6:172, 178, 185; 7:217, 255-79, 367; 9:421, 440; 10:382; 11:276, 286; 14:327², 330⁷, 333³, 363⁷, 368⁷, 374³, 383³.
- European, 7:279-85; 8:300; 9:440; 14:374⁶.
- Beans, insects, etc., injurious to;
army worm, 12:206.
- Bruchus obtectus (syn. B. obsoletus), 2:49; 6:172, 185; 7:217, 257; 8:298; 9:440, 463; 10:511.
- rufimanus, 7:280; 8:299; 9:440.
- Cantharis nuttalli (syn. Lytta), 8:294.
- cut worms, 2:28.
- Diabrotica vittata, 9:364.
- Epicauta cinerea, 8:294.
- Heliothis armiger, 1:120.
- Julus, 1:307.
- Macroductylus subspinosus, 1:229; 2:14.
- Phytonomus punctatus, 2:14.
- Phorbia fusciceps (syn. Anthomyia angustifrons), 4:179.
- Systema taeniata (syn. S. blanda), 9:344.
- Tetranychus telarius, 4:288; 5:288.
- castor, Hydroecia nitela (syn. Gortyna), on, 8:191.
- Beckwith, M. H., cited, 4:207; 10:378; 11:233; 12:254.
- Bed bug, 1:36, 62, 74, 79; 2:16, 152; 4:112, 133; 10:435; 11:112; 12:323; 13:374⁵; 14:314⁴.
- big [Conorhinus], 4:111.
- Bedel, Louis, cited, 4:104.
- Bee, honey, 11:117-24. *See also* Bees.
- Bee keeper's magazine cited, 5:302; 14:353⁸.
- Bee parasites, 1:79.
- Bee slayer, 3:107, 110; 4:204; 7:371; 11:117; 14:352⁸.
- Beech, insects injurious to;
Chrysobothris femorata, 6:155.
- Datana integerrima, 12:309.
- Fenisea tarquinius, 3:125.
- Incurvaria acerifoliella, 5:218.
- Odontota dorsalis, 12:266.
- Pemphigus imbricator (syn. Schizoneura), 3:123, 124, 142, 152, 153; 12:355, 363; 14:394⁶.
- Phloeotribus liminaris, 4:204.
- Pulvinaria innumerabilis, 6:143.
- Tremex columba, 4:38.
- Beech aphid, 2:181.
- Beech tree blight, 4:204; 12:355; 14:346³, 352⁴, 394⁵.
- Beech tree borer, 14:361⁸.
- Bees, 1:40, 69, 74, 78, 168, 212; 4:190; 7:290, 371; 10:497; 11:103; 13:369; 14:319²; honey dew food for, 14:348²; killed by arsenical spray on blossoms, 14:381⁷; by bordeaux mixture in blossoms, 11:123.
- Beet leaf miners, 14:335³, 338⁵, 372⁴.
- Beets, insects injurious to;
Anthomyians, 1:183, 203; 2:46; 4:314; 5:314; 8:285; 12:361; 14:372¹.
- cut worms, 8:236.
- Disonycha triangularis, 7:383.
- Epicauta cinerea, 12:354.
- vittata, 6:132, 133; 12:354.
- leaf miners, 1:183, 203-11; 2:46, 225; 3:85; 5:314; 8:285; 9:375.
- Lygus pratensis, 8:285; 9:375; 13:352³, 353³; 14:372¹.
- Mamestra picta, 2:1; 4:209; 5:209.
- Otiorthynchus singularis (syn. O. picipes), 10:419.
- sulcatus, 10:419.
- Pegomyia betae (syn. Anthomyia), 1:206.
- betarum (syn. Chortophila), 1:208; 3:85.
- vicina, 1:209; 3:85.
- Phorbia brassicae (syn. P. floccosa), 1:207; 2:225.
- Phyllotreta vittata, 9:375.

- Beets, insects injurious to;
Systema taeniata (syn. *S. blanda*), 9:344, 375.
behrensii, Nadata, *see* *N. gibbosa*.
 Belknap, C. G., insects from, 5:325.
 Bell, J. T., cited, 12:238⁷; 13:347⁷.
Bellamira scalaris (syn. *Leptura*). 5:285.
 Bellevoe, M., cited, 11:109.
bellona, *Argynnis*, *see* *Brenthis*.
Brenthis (syn. *Argynnis*), 4:137; 5:285.
bellus, *Phytocoris*, *see* *Poecilocapsus lineatus*.
Belostoma americanum, 3:141; 4:145, 208; 6:189; 7:383; 8:299; 10:512, 517; 14:357⁹.
Belvoisia unifasciata (syn. *Exorista flavicauda*), 12:190, 210.
Bembecia marginata (syn. *Trochilium*), 3:145; 9:450; 14:344⁴.
Bembidium quadrimaculatum, 3:98-100, 140, 146; 14:344⁷, 352⁴.
 Bemis, W. L., studies of *Bombus* and *Psithyrus*, 11:104.
Benacus griseus, 7:383; 11:287.
bennetii, *Agdistis*, 12:221.
 Bennett, A. W., cited, 11:248.
 Bentley, W. H., insects from, 10:511.
berberidis, *Aphis*, *see* *Rhopalosiphum*.
Rhopalosiphum (syn. *Aphis*), 9:405, 411, 412.
Berlin Entomologischer Zeitschrift cited, 1:216.
 Berytidae, 4:156.
 Bessey, C. E., cited, 2:168.
betae, *Anthomyia*, *see* *Pegomyia*.
Chortophila, *see* *Pegomyia*.
Pegomyia (syn. *Anthomyia*, *A. sulcans*, *Chortophila*), 1:204, 206, 207.
betarum, *Chortophila*, *see* *Pegomyia*.
Pegomyia (syn. *Chortophila*), 1:208; 3:85; 5:322; 14:308⁴, 341⁸.
 Bethune, C. J. S., cited, 1:173, 227, 264; 2:69, 89, 102, 149; 4:28, 57; 5:246; 7:256; 10:405, 454; 11:109, 248; 12:192.
bethunei, *Xylina*, 1:328, 341; 11:265; 12:360.
Betula, insects injurious to, 4:178.
Betula alba, *see* Birch, white.
lutea, *see* Birch, yellow.
pendula (var. *valecardia*) infested by *Cecidomyia betulae*, 11:162, 164.
betulae, *Cecidomyia*, 3:86, 141; 4:27, 205, 206; 11:162-65; 12:357; 14:343⁷, 357⁸, 395⁵.
betulaecolens, *Aphis*, *see* *Callipterus*.
Callipterus (syn. *Aphis*), 9:406, 411, 412.
 Beutenmüller, William, cited, 9:300, 301, 307; 11:138, 140, 141, 182; 13:344¹; reference, 13:350⁷.
Bibio albipennis, 2:110-15; 4:174; 6:167, 174, 188; 7:369; 14:318⁴, 324⁷, 342⁸, 359⁹.
femoratus, 6:180; 14:328¹.
hortulanus, 2:112.
 Bibionidae, 2:111.
bicarnea *Agrotis*, *see* *Noctua*.
Noctua (syn. *Agrotis*), 1:340; 10:377.
bicaudatus, *Amphicerus* (syn. *Apate*, *Bostrichus*), 1:312, 330; 2:125-32; 9:447; 11:268; 12:362; 14:311², 342⁷.
Apate, *see* *Amphicerus*.
Bostrichus, *see* *Amphicerus*.
bicolor, *Anisota*, *see* *Sphingicampa*.
Cebrio, 3:100-1; 7:371; 14:319¹, 352⁵.
Coptocycla, *see* *Coptocycla bicolor*.
Podura, *see* *Tomocerus plumbeus*.
Sphingicampa (syn. *Anisota*), 5:199.
Trombidium, erroneous reference of *Bryobia pratensis*.
bicolorago, *Orthosia*, 10:482.
 var. *ferruginoides*, *Orthosia* (syn. *O. ferruginoides*), 8:291; 14:315⁵.
bicornis, *Bostrichus*, 11:268.
bidens, *Pentatoma*, *see* *Picromerus*.
Picromerus (syn. *Pentatoma*), 4:133.
bifida, *Tettigonia*, 9:395.
bifidalis, *Tortricodes*, *see* *Gaberasa ambigualis*.
bifoveolatus, *Dinoderus*, 11:286.
biguttatus, *Pirates*, *see* *Rasahus*.
Rasahus (syn. *Pirates*), 4:112, 133.
bilinearia, *Endropia*, 11:284.
bilineata, *Hexagenia*, 4:124.
bilineatum, *Ophion*, 4:205.
bilineatus, *Stenobothrus*, *see* *Orphulella speciosa*.
Telephorus, 8:109, 173-74, 298; 10:497; 14:382⁷.
 Bill bug, 1:260, 310.
bimaculata, *Coccinella*, *see* *Adalia bipunctata*.
Oberea (syn. *O. basalis*, *O. perspicillata*, *O. tripunctata* *Saperda*, *S. affinis*), 1:57, 297; 4:47, 189, 207; 5:231-33; 7:369;

- 9:457; 11:170, 171, 14:314³, 318², 362³.
Plusia, 10:376.
Saperda, *see* *Oberea*.
Thelia, 1:284; 9:392.
bimaculatus, *Bombus*, 11:104.
bimarginata, *Haltica* (syn. *H. alni*), 4:96-101; 5:170; 14:357⁴.
binotata, *Anomala*, 10:413.
Enchenopa (syn. *Enchenophyllum binotatum*, *Membracis*, *Thelia*), 1:281-88, 319; 4:203; 6:177; 9:387, 410; 10:493, 512; 11:270.
Membracis, *see* *Enchenopa*.
Thelia, *see* *Enchenopa*.
binotatum, *Enchophyllum*, *see* *Enchenopa binotata*.
 Biological society of Washington, *Proceedings* cited, 9:317.
bipunctata, *Adalia* (syn. *Coccinella*, *C. bimaculata*), 2:232; 3:137, 148; 4:12, 194, 195; 6:117-19; 7:375; 9:306, 370; 12:298; 13:362⁶, 362⁹; 14:320⁷, 334⁶, 347⁵, 367².
Coccinella, *see* *Adalia*.
Birch, insects injurious to;
Aphis betulaecolens, 9:406.
Bucculatrix canadensisella, 8:106, 133-40, 297.
Bythoscopus fenestratus, 9:400, 410.
 minor, 9:400, 410.
 variabilis, 9:400, 410.
Cecidomyia betulae, 4:27, 206; 11:162, 163.
Elaphidion villosus, 9:358-59.
Eutettix seminuda (syn. *Bythoscopus*), 9:398.
Hylotoma pectoralis, 12:359.
Mytilaspis pomorum, 11:202.
Odontota dorsalis, 12:266.
Telephorus bilineatus, 8:109, 173-74.
 white, insects injurious to;
Anisota senatoria, 5:197.
 birch seed insect, 3:143.
Cecidomyia betulae, 3:85, 86, 141; 4:206; 11:162, 163.
Phobetrion pithecium, 5:187.
 yellow, *Bucculatrix* species on, 3:136, 140.
Birch leaf Bucculatrix, 10:497; 14:832².
Birch seed insect or midge, 11:162-65; 12:357; 14:343⁷, 395⁵.
Bird fly, 1:79.
Bird lice, 1:80; 7:384.
birdii, *Empoasca*, 11:270.
Birds carrying *Gossyparia ulmi*, 12:297; feeding on army worm, 12:209; insectivorous, 9:349-51; 12:212, 288; 14:383⁵, 369².
Birge, E. A., cited, 11:240; quoted, 11:238.
bisecta, *Anisota*, *see* *Sphingicampa*.
Sphingicampa (syn. *Anisota*), 5:199; 7:373; 14:307⁴, 320⁴.
Bissell, J. C., insects from, 6:190.
Biston ursaria, *see* *Lycia*.
 ypsilon, *see* *Nacophora*.
bistriaris, *Parallelia*, 10:482.
bitaeniata, *Systema*, *see* *S. taeniata*.
Bittacus, 10:463, 464, 467, 474, 477, 478.
 apterus, 10:474, 478.
 italicus, 10:477.
 pilicornis, 10:476.
 strigosus, 10:473-80; 12:352; 14:393⁴.
Bittersweet, insects injurious to;
Coptocycla bicolor (syn. *C. aurichalcea*), 6:125.
 clavata, 6:126.
Enchenopa binotata, 1:281, 286.
Nectarophora species, 10:512.
Poecillocapsus lineatus, 1:277.
bivittata, *Cassida*, 6:127.
 Saperda, *see* *S. candida*.
bivittatus, *Melanoplus*, 11:272.
 Xyloterus, *see* *X. lineatus*.
bivulnerus, *Chilocorus*, 2:186; 5:267, 300; 10:501; 12:361; 14:385².
Black, J. F., insects from, 3:140.
Black corsair, 4:109-11; 14:339¹.
Black fly, 1:74; 2:112; 3:148; 5:283, 314; 11:106; 12:307, 320.
Black knot (*Plowrightia*), 1:308; 4:185; 5:280-81, 320; 14:341².
Black rot, 4:185.
Black scale of California, 1:332; 11:271.
Black-worm, 1:312; 2:43; 4:163.
Blackberry, insects injurious to;
Agrilus ruficollis, 6:124; 10:407.
Anomala marginata, 10:411.
Chauliognathus pennsylvanicus, 4:86.
Lepyronia quadrangularis (syn. *Aphrophora*), 5:245.
Lygus pratensis, 13:352⁷.
Macroductylus subspinosus (rose bug), 4:199; 9:420.
Sciara fulvicauda, 12:227, 361.
Tischeria malifoliella, 11:162.
Blackbird feeding on army worm, 12:209.
 red winged, 2:189.
Blair, Mrs John, insects from, 4:205.
Blanchard, F., cited, 12:268.
blanda, *Systema*, *see* *S. taeniata*.
Blanket flower (*Gaillardia*), *Thrips tabaci* on, 11:245.

- Blatchley, W. S., cited, 9:330; 12:265; 13:353⁷.
- Blatner, J. H., insects from, 6:190.
- Blepharida rhois, 5:271.
- Bleptina species, 4:206.
- Bline, Jasper, insects from, 10:518.
- Blissus leucopterus (syn. Lygaeus, Micropus, Rhyparochromus, R. devastator), bibliography, 2:148-49; description, 2:150-51; dimorphic form, 2:155-56; estimated loss caused by, 1:7; 2:156-67; general account, 2:148-64; hibernation, 11:199; history, 2:151-52; injuries, 2:4, 156-57; life history, 2:153-54; operations in N. Y., 2:157-60; 7:331-32; 11:198; 12:315; 13:361⁶; reference, 1:17, 302; 2:166, 232, 233; 5:317; 12:357; 13:369⁸, 374⁵; 14:334⁸, 339⁸, 342⁸, 395⁹, 398⁸, 400²; remedies, 1:58; 2:160-63; 11:199.
- Blister beetles, attacking beans, 8:294; attacking Clematis flammula, 4:201; attacking potatoes, 5:321; 7:376-77; 8:290-91, 294; injuring beets, 12:354; reference, 6:119, 14:315², 317⁴, 350⁸; remedies, 1:57; 3:135.
- ash-gray, 1:32, 57, 331; 5:305; 6:135; 8:302; 9:466; 10:449-60, 513; 11:269, 272, 288; 12:315, 362; 14:328⁸, 354⁹, 399⁵.
- black, 1:305; 2:227; 6:135, 170; 9:443; 10:496; 11:281; 14:332⁷, 361⁷, 368¹, 376¹, 381³, 390¹;
- marginated, 1:33, 57; 6:134; 12:354; 14:367⁹, 394³;
- Say's, 14:368¹;
- striped, 1:33, 40, 57, 300, 322; 6:132-34, 176; 7:376; 12:354; 14:322⁴, 326¹, 367⁹, 394³.
- Blodgett, J. E., insects from, 4:207.
- Blood-sucking cone-nose, 4:111.
- Bloomfield, E. N., cited, 8:141.
- Blue-jay feeding on army worm, 12:209.
- Blue joint grass *Sphenophorus sculptilis* on, 1:259.
- Blueberry insects injurious to:
- Clastoptera obtusa*, 5:245; 8:153.
- proteus*, 8:153.
- Thecla liparops* (syn. *T. strigosa*), 4:137.
- Bluebird, 2:8.
- Boardman, D. L., insects from, 3:142.
- Boarmia, 1:72.
- crepuscularia*, *see* *Cleora*.
- pampinaria*, *see* *Cleora*.
- plumigeraria*, *see* *Coniodes*.
- Bobolink feeding on army worm, 12:209.
- Body lice, 1:79.
- Boheman, C. H., cited, 7:279, 285.
- Boisduval, J. A., cited, 1:172; 5:179, 180, 193, 200; *Genera et index methodicus Europaeorum Lepidopterorum* cited, 5:210; *Histoire naturelle des insectes. Species général des Lépidoptères* cited, 5:174, 180.
- Boletina species, 10:392.
- boletivorus, *Achorutes*, *see* *Schoturus*.
- Schoturus* (syn. *Achorutes*), 2:206.
- Bolitophila cinerea, 10:392.
- disjuncta*, 10:392.
- fusca*, 10:392.
- Boll worm, 1:8, 38, 40, 117, 120, 125, 126; 7:216, 263; 14:397².
- Bollman, C. H., cited, 4:128.
- Bombarding beetle, 6:170; 14:361⁶.
- Bombus, 11:104.
- affinis*, 11:104.
- bimaculatus*, 11:104.
- borealis*, 11:104.
- consimilis*, 11:104.
- fervidus*, 3:140.
- pennsylvanicus*, 9:461; 11:284.
- ridingsii*, 11:104.
- species* 9:461.
- ternarius*, 11:104.
- terricola*, 11:104.
- vagans*, 11:104.
- virginianus*, 3:140.
- Bombycid moth, 9:426, 448.
- Bombycidae, breeding of, 1:340;
- caterpillars of, carnivorous, 1:119;
- dates of collection (abstract), 9:453; delayed pupation of, 1:137;
- depredating on apple tree, list of, 1:328; 11:264; *Limneria* parasitic on, 3:91, 150; molting of, 1:98; 2:74; notes on N. Y. species, 9:455, 456; reference, 11:106; 14:330²;
- sexual features of, 2:213, 214;
- species listed, 10:481; species treated, 1:81-99; 2:68; 4:48-54; 5:183-200; 7:225, 302, 304, 306; 10:369-72; 13:242⁶-51³; study and illustration of, 4:164; 5:317; urticating hairs of larvae, 4:52; wide range of food plants, 2:76-77.
- bombycis*, *Micrococcus*, 2:40.
- Bombyliidae, 1:182; 2:45; 4:175; 10:360, 377; 12:308, 338; 11:106.
- Bombyliomyia abrupta (syn. *Hystriicia*, *H. vivida*, *Tachina vivida*), 8:297; 9:462.
- Bombylius, 2:223.

- Bombyx**, 1:85.
 didyma, *see* *Basilona imperialis*.
 grata, *see* *Euthisanotia*.
bonassi, *Hypoderma*, *see* *H. lineata*.
Boneset, insects injurious to;
 Cicada septendecim, 2:176.
 Sitodrepa panicea, 4:92.
bonnetii, *Anotia*, 9:387.
Book louse, 1:298, 316.
Boophilus bovis (syn. *Ixodes*), 6:
 156-68; 9:458; 13:375⁴; 14:314⁵,
 368³.
Boots and shoes weekly cited, 4:197,
 198; 14:348⁷, 349¹.
borealis, *Bombus*, 11:104.
 Cerura, 1:137; 7:375; 9:456; 14:
 313⁵, 321⁶.
 Coccinella, *see* *Epilachna*.
 Dibolia (syn. *D. aerea*), 10:414-
 16, 511; 12:352; 14:393⁴.
 Epilachna, *see* *Epilachna bore-*
 alis.
 Gryllotalpa, 2:233; 6:149-51;
 10:519; 12:363; 14:335¹, 368².
boreata, *Operophtera*, 11:266.
Borer, long horned, 12:238-39.
Boreus, 2:236-37; 10:477.
 brumalis, 1:298; 2:238; 14:343³.
 hyemalis, 2:235-36.
 nivoriundus, 1:298; 2:237-38; 14:
 343³.
Bos, J. Ritzema, *Tierische schädlinge*
 und nützlinge cited, 7:280, 285; 8:
 141; 11:241, 242, 250; 12:230.
Boston cultivator cited, 1:227.
Boston herald cited, 4:202; 14:351¹.
Boston journal cited, 9:300.
Boston journal of natural history
 cited, 2:136, 188; 11:109; 12:264;
 13:335³; quoted, 11:110.
Boston society of natural history,
 Proceedings cited, 2:136, 139, 168;
 5:201; 9:300; 10:404; 12:298;
 13:335³.
Bostrichinae, 2:132.
Bostrichus bicaudatus, *see* *Amphi-*
 cerus.
 bicornis, 11:268.
 typographus, *see* *Tomicus*.
Bot-flies, 1:299.
Bot-fly of the hare, 7:367; 14:368⁹.
Bothwell, Herbert, insects from,
 10:512.
Botis acutella, *see* *Phlyctaenia*.
 adipaloides, *see* *Pyrausta*.
 erectalis, *see* *Pyrausta futilalis*.
 ferrugalis, *see* *Phlyctaenia*.
 marculenta, *see* *Loxostege oblit-*
 eralis.
 reversalis, *see* *Mecyna*.
 theseusalis, *see* *Pyrausta*.
 unifascialis, *see* *Pyrausta*.
botrana *Eudemis*, 2:33.
Botrytis bassiana, a fungus, 2:179;
 silkworm destroyed by, 2:179.
Botys, 1:138.
 futilalis, *see* *Pyrausta*.
Bouché, P. F., cited, 4:114; *Natur-*
 geschichte der Insecten cited, 1:172,
 184.
boucheanus, *Dibrachys* (syn. *Semio-*
 tellus elisiocampae), 6:186.
bovinus, *Tabanus*, 4:199; 6:115.
bovis, *Boophilus* (syn. *Ixodes*), 6:
 156-68; 9:458; 13:375⁴; 14:314⁵,
 368³.
 Hypoderma, erroneous refer-
 ence of *H. lineata*.
 Hypoderma (syn. *Oestrus*), of
 Europe, 6:111-14; 13:364⁵; 14:
 367⁷, 396³.
 Ixodes, *see* *Boophilus*.
 Oestrus, *see* *Hypoderma*.
bovistae, *Phora*, 10:403.
Bower, L., insects from, 11:284.
Bowers & Sands, insects from, 13:
 374³.
Bowles, G. J., cited, 1:216; 2:297;
 11:109.
Box, insects injurious to;
 Icerya purchasi, 4:187.
 Psylla buxi, 2:18.
Box elder, insects injurious to;
 Chrysobothris femorata, 6:155.
 Leptocoris trivittatus, 4:156,
 157, 158, 193; 10:432, 436, 505.
 Pulvinaria innumerabilis, 6:143.
Box elder plant bug, 4:156; 10:432-
 39, 503, 505; 11:270, 283, 287;
 12:352; 14:358², 385⁸, 391¹, 393¹.
Box turtle, warble fly, 6:111.
Boyd, H. C., insects from, 4:205.
Brachinus fumans, 6:170; 14:361⁶.
Brachynemurus abdominalis, 11:
 238.
 nigrilabris, 11:238.
 pumilus (syn. *Myrmeleon*), 11:
 238.
brachypterus, *Aleochara*, 1:188.
Brachytarsus limbatus, 2:141.
 obsoletus, *see* *B. variegatus*.
 sticticus, *see* *B. variegatus*.
 variegatus *Say* (syn. *Anthrribus*,
 B. obsoletus, *B. sticticus*), 2:
 139-41; 14:342⁷.
 varius, *see* ?*Anthrribus variega-*
 tus Fowrer.
Bracon species, 1:308; 12:359.
 vernoniae, 11:156.
Braconid parasite of *Bucculatrix*,
 1:161.
Braconidae, 5:177, 253.
Bradt, S. C., insects from 4:298; 5:
 324; 8:296; 11:285, 287; 13:373³,
 374⁷.
Brake, common, *Lagoa crispata* on,
 4:52.

- Bran, mites (*Tyroglyphus siro*) in, 6:170; 14:361⁷.
- Brass, W. C., insects from, 10:515.
- Brassica nigra*, see Mustard, wild.
- brassicæ, *Anthomyia*, see *Phorbia*.
- Aphis, 1:296; 6:147; 7:317, 372; 9:405, 412, 440; 10:495; 14:319⁹, 368², 374⁶, 378², 381¹.
- Phorbia* (syn. *Anthomyia*, *P. floccosa*, *Chortophila floccosa*, *Musca floralis*), 1:47, 171, 184-91, 192, 193, 207, 208, 296, 322; 2:28, 225; 5:158, 225, 265, 319; 9:431; 10:486; 14:331⁷, 335⁸, 335⁹, 340⁷, 349⁹, 363², 377⁸.
- Plusia*, see *Plusia brassicæ*.
- brassicella, *Cerostoma*, see *Plutella cruciferarum*.
- Brauer, Friedrich, cited, 10:477; 11:240.
- Bray, Anderson, insects from, 7:381.
- Brazilian Mantis, 4:160.
- bredowii var. californica, *Heterochroa* (syn. *H. californica*), 8:296.
- Brenthis bellona* (syn. *Argynnis*), 4:137; 5:285.
- myrina (syn. *Argynnis*), 4:137.
- Brephos infans*, 7:375; 14:321⁸.
- breweri, *Bruchus*, see *B. obtectus*.
- Brewster, G. W. H., on army worm, 12:196.
- Briggs, A. H., insects from 6:188, 190.
- Briggs, J. B., insects from, 8:297.
- Brinkerhoff, Mrs E. C., insects from, 9:463.
- Bristle tails, 1:79; 2:207; 11:252.
- Bristly rose worm, 10:499.
- British wheat midge, 1:9.
- Britton, W. E., cited, 12:194.
- brizo, *Nisoniades*, see *Thanaos*.
- Thanaos (syn. *Nisoniades*), 1:336, 337; 7:375; 14:321⁴.
- Brechymena annulata*, 11:270.
- carolinensis, 11:270.
- Brodie, Dr, cited, 11:250.
- Bromus mollis*, see Chess, soft.
- Brooklyn citizen* cited, 4:128.
- Brooklyn entomological society, *Bulletin* cited, 2:57; 4:20, 35, 36, 151; 9:307; 12:268; 13:343⁷; *Check list of Macrolepidoptera of America* cited 13:343⁸.
- Brookmansia*, *Plusia dyaus* on, 2:94.
- Brooks, Jonas, insects from, 5:326; 6:189.
- Brooks, M., on Cicada chambers, 10:516, 517, 518; 12:280-81.
- Brooks, W. P., cited, 12:194.
- broussii, *Eristalis* (syn. *E. meigenii*), 9:462.
- Brown, A. L., insects from, 6:188.
- Brown, E. C., & Co., insects from, 10:511.
- Brown, Mrs J. C., insects from, 5:324; 9:461.
- Brown, M. L., insects from, 13:375⁵.
- Bruchidae, 7:255-88.
- Bruchophagus* species, 7:282; 12:359.
- Bruchus affinis* *Froelich* (syn. *B. flavimanus Bohem.*), 7:268, 282, 284.
- affinis of Europe, 7:284.
- atomarius, 7:268, 282, 284.
- breweri, see *B. obtectus*.
- chinensis (syn. *B. scutellaris*), 6:127; 7:282, 383; 8:295; 10:382; 14:317⁸, 367⁹.
- fabæ, see *B. obtectus*.
- fabi, see *B. obtectus*.
- flavimanus *Bohem.*, see *B. affinis* *Froelich*.
- granaria *Pack.*, see *B. obtectus*.
- granarius *Linn.*, see *B. rufimanus Bohem.*
- irresectus, see *B. obtectus*.
- lentis, 7:285-88; 9:440; 14:374⁶.
- minus, 7:285.
- obscurus (a probable error for *obtectus*).
- obsoletus, see *B. obtectus*.
- obtectus* (syn. *B. breweri*, *B. fabæ*, *B. fabi*, *B. granaria Pack.*, *B. irresectus*, *B. obsoletus*, *B. pallidipes*, *B. subellipticus*, *B. varicornis*), 2:49, 228; 6:178, 185; 7:217, 255-79, 267, 383; 8:298; 9:440, 463; 10:382, 511; 11:286; 12:362; 14:327², 330⁷, 333², 368⁸, 374⁵.
- pallidipes, see *B. obtectus*.
- phaseoli, 7:263.
- pisi, see *B. pisorum*.
- pisorum (syn. *B. pisi*), 6:127, 128; 7:256, 263, 268, 280, 286; 9:439; 12:355; 14:353⁴, 373⁸, 394⁸.
- rufimanus *Bohem.* (syn. *B. granarius Linn.*), 6:128; 7:263, 267, 268, 279-85, 286, 383; 8:299; 9:440; 14:374⁶.
- rufimanus *Schon.*, erroneous reference of *B. lentis*.
- scutellaris, see *B. chinensis*.
- seminarius, 7:283, 284.
- subarmatus, erroneous reference of *B. obtectus*.
- subellipticus, see *B. obtectus*.
- varicornis, see *B. obtectus*.
- brumalis, *Boreus*, 1:298; 2:238; 14:343³.

- brumalis, *Trichocera*, 1:298; 2:243; 14:343³.
- brumosa, *Acronycta*, 11:265.
- Bruner, Lawrence, cited, 2:188; 10:378, 433; 11:182, 263; 12:192, 218, 254; 13:353²; *Insect enemies of the apple tree and its fruit* cited, 11:250, 263; *Insect enemies of small grains* cited, 11:250.
- Brunetti, E., cited, 10:405.
- Brunn, A. E., cited, 11:160; quoted, 11:161, 187.
- brunnea, *Colaspis*, 1:321; 6:183.
- Parandra, 11:268.
- brunneicollis, *Agrotis*, *see Rhynchagrotis*.
- Rhynchagrotis (syn. *Agrotis*), 7:375; 14:321⁹.
- brunneum, *Orthosoma*, 4:20, 22; 11:268.
- brunneus, *Ptinus*, 4:90, 92; 6:188.
- Bryobia pallida*, *see B. pratensis*.
- pratensis* (syn. *B. pallida*, *Trombidium bicolor* in error), 2:224; 3:128-30; 6:158, 159, 160, 161, 180; 7:321-24, 365; 9:440; 10:450, 486; 11:272, 288; 13:375⁴; 14:328¹, 331⁶, 352³, 359², 367³, 368³, 374⁷, 377⁶.
- speciosa*, 11:272.
- Brysocrypta hamamelidis*, *see Hormaphis*.
- rhois*, *see Pemphigus*.
- ulmicola*, *see Colopha*.
- bubalus, *Ceresa*, 1:284, 315, 318, 331; 4:146, 147, 208; 7:360; 8:294; 9:390; 11:270; 14:317³, 357⁹, 365¹.
- buccata, *Cuterebra*, 2:46.
- bucculatricis *Encyrtus*, 1:160.
- Bucculatrix ambrosiaefoliella*, 1:344; 8:106, 138.
- canadensisella*, 3:136, 140; 8:106, 133-40, 297; 10:369, 497; 14:382².
- pomifoliella* (syn. *B. pomonella*); distribution, 1:158-59; 5:261; 7:354; 8:123; general account, 1:157-58; 5:260-62; life history; 1:157-58; 5:260-61; parasites, 1:159-61; 8:123; 10:369; *Psocus* bred from, 1:161-62; reference, 1:166, 330, 344; 2:224; 6:174, 187; 7:216, 359, 368, 382; 8:135, 136, 137, 218, 281, 283; 9:445; 10:510; 11:267; 12:307, 360; 14:325², 331³, 335⁷, 339⁷, 364⁷, 369², 370⁷, 371⁴, 376⁹; remedies, 1:162; 5:262, 317.
- pomonella*, *see B. pomifoliella*.
- thuiella*, 1:162.
- Buckeye, insects injurious to; *Proteoteras aesculana*, 12:215, 217.
- Steganoptycha claypoliana*, 12:216, 217.
- Buckton, G. B., *Monograph of British aphides* cited, 5:246, 253.
- Buckwheat, insects injurious to; *Anosia plexippus* (syn. *Danaus archippus*), 5:285.
- Mamestra picta*, 4:16; 5:209.
- Vanessa atalanta* (syn. *Pyrameis*), 5:285.
- Bud mites, 5:290.
- Bud moth or worm, attacking plum, 7:355; life history; 7:306-7; on apple tree, 1:329; 4:14, 206; 7:363; ravages, 8:124, 218-19; 9:296; reference, 5:304; 7:216, 382; 8:288; 9:293, 372, 373, 440, 462; 10:488, 490; 11:121, 266; 12:307; 14:365², 366⁵, 370⁷, 371³, 373⁷, 374³, 378⁵; remedies, 7:307, 360.
- Buffalo bug, 9:302.
- Buffalo courier* cited, 8:293; 14:316⁴.
- Buffalo fly, 5:220, 226; 7:333; 9:444; 13:364⁹; 14:396³. *See also* Buffalo gnat.
- Buffalo gnat, 5:314; 14:338³.
- Buffalo moth, 11:280.
- Buffalo society of natural sciences, *Bulletin* cited, 1:116, 211; 2:89, 116; 5:201, 207, 210; 7:228; 9:459; 10:430; 11:135, 146, 152; 12:218; 13:352⁸; 14:305⁵, 307⁶, 314⁷.
- Buffalo tree hopper, 1:284, 315, 318, 331; 4:146, 208; 11:270.
- buffaloensis, *Sesia*, *see Hemaris*.
- Hemaris* (syn. *Sesia*), 9:451; 14:312², 358⁸.
- "Bug-catcher," 11:188-89.
- Bugnion, Edward, cited, 10:405.
- Bullard, W. S., spraying trees, 12:264.
- Bullen, J. J., insects from, 10:512.
- Bumble bee, 1:319; 7:299.
- Buprestidae, 1:30, 303; 4:182; 6:123; 10:406-7; 11:267.
- Buprestis fasciata*, 10:516.
- ruficollis*, *see Agrilus*.
- Burdock, insects on; *Chorthophila conformis* (syn. *Musca*), 1:209.
- Dorthisia species*, 1:286.
- Hydroecia nitela* (syn. *Gortyna*), 1:115.
- Melanoplus femur-rubrum*, 6:152.
- Burmeister, H. C. C., *Handbuch der Entomologie* cited, 1:233; 2:188; 10:411; *Manual of entomology* cited, 2:198.

- Burnett, H. S., cited, 12:192.
 Burnett, W. L., cited, 2:168.
 Burning bush, insects on;
 Aphis rumicis, 14:375³.
 Poecillocapsus lineatus, 1:277.
 Burr, J. H. T., insects from, 10:515.
 Burrill, T. J., cited, 10:453.
 Burrowing beetle, 7:371.
 Burt, S. W., insects from, 12:363.
 Burying beetles, 5:289.
 Busick, Mrs. K. M., insects from, 5:324.
 Butalis cerealella, *see* Sitotroga.
 Butler, A. W., cited, 7:296.
 Buttercup, *Meloe angusticollis* on, 6:130.
 Butterfield, J. L., insects from, 11:286.
 Butterflies, "assembling", 1:70;
 calendar of (abstract), 9:453, 456; 14:311⁸, 312²; classifica-
 tion, 1:78; contributions of, 6:186-87; Edwards' work on, 1:22; in the Adirondacks, 5:285; larvae, 8:170; list of N. Y. species (abstract), 9:449; 14:311⁷; mouth parts of, 12:326; number of, 4:165, 181; *Phymata wolffii* (syn. *P. erosa*), capturing, 7:371; reference, 1:227, 10:466; 14:319²; scarcity of, 12:307; South American from E. Corning jr, 7:220; species treated of, 8:169-70; 9:336-37; studies of, 4:173, 174; swarming, 10:490.
 carnivorous, 4:179.
 little orange, 8:169-70; 10:497; 14:382⁵.
 Butternut, insects injurious to;
 Carynota mera, 9:388.
 Clastoptera obtusa, 8:153.
 Corythuca juglandis, 4:108.
 Cyllene pictus, 8:176.
 Enchenopa binotata, 1:287, 319.
 Halisidota caryae, 7:355.
 Notolophus leucostigma (syn. *Orygia*), 2:77.
 Pomphopoea sayi, 6:135.
 Buttonwood, *Corythuca ciliata* on, 4:107, 108.
 buxi, *Psylla*, 2:18.
Buxus sempervirens, *see* Box.
 Byington, W. W., insects from, 10:518.
 Byrne, J., insects from, 10:515.
 Byrrhus scrophulariae, *see* Anthrenus.
 Bythoscopus elitellarius, *see* Thamnottetix.
 fagi (syn. *Athysanus*), 9:401.
 fenestratus (syn. *Athysanus*), 9:400, 410.
 Bythoscopus minor (syn. *Athysanus*), 9:400, 410.
 nigrinasi (syn. *Athysanus*), 9:401, 410.
 seminudus, *see* Eutettix seminuda.
 strobi, *see* Phelpsius.
 tergatus, *see* Chlorotettix tergata.
 unicolor, *see* Chlorotettix.
 variabilis (syn. *Athysanus*, *A. abietis*), 9:400, 410.
 Byturus unicolor, 8:298.
 Cabbage, insects injurious to;
 Aphis brassicae, 6:148; 7:317, 372; 9:405, 440; 10:495; 14:319⁹, 378².
 Carneades tessellata (syn. *Agrotis*), 7:382.
 Chelymorpha argus, 14:350⁸.
 Diabrotica 12-punctata, 7:315.
 Epicauta vittata, 6:135.
 pennsylvanica, 14:332⁷.
 Feltia annexa (syn. *Agrotis*), 8:235.
 Julus caeruleocinctus, 6:190; 10:446.
 Lygus pratensis, 13:351¹, 351⁹.
 Mamestra picta, 5:209⁴.
 subjuncta (syn. *Hadena*), 1:58; 8:235.
 trifolii, 8:235.
 Melanotus species, 7:360.
 Murgantia histrionica, 1:264; 2:146; 6:177; 7:372; 8:290, 292; 9:315, 441, 463; 11:280; 12:349; 14:315², 316³, 319⁸.
 Noctua clandestina (syn. *Agrotis*), 8:234, 235.
 Otiorhynchus ovatus, 10:418.
 Peridroma saucia (syn. *Agrotis*), 5:205.
 Phorbia brassicae (syn. *Anthomyia*, *P. floccosa*), 1:208; 2:28; 5:157, 158; 9:431, 432; 10:486.
 Phyllotreta vittata, 1:60.
 Pieris rapae, 1:9, 39, 52, 59; 7:335; 8:251; 14:310³.
 Plusia brassicae, 2:91; 6:184; 9:295; 10:487; 14:378².
 Polydesmus complanatus, 3:133.
 serratus, 12:301.
 Smynthurus hortensis, 2:207.
 Strachia ornata, 1:270.
 Thrips, 9:445, 464.
 tabaci, 11:242, 243, 244; 13:363⁹.
 wire worms, 13:367⁵; 14:365³.
Xylophasia devastatrix (syn. *Hadena*), 1:58; 8:235.

- Cabbage Aphis, general account, 6: 147-48; reference, 1:296, 322; 7: 372; 9:405, 440; 14:319⁹, 368², 374⁶, 381¹; remedies, 2:32; 6:148; 7:318; 9:432; 10:495; unusual abundance of, 7:317-18.
- Cabbage butterfly, increased injuries in this country, 1:9; introduced, 1:80, 240; 8:251; parasites, 1:189; 9:447; poisonous nature of, 9:446; reference, 1:194, 267, 269, 322; 2:90, 92, 93; 3:109; 5:309; 9: 454; 14:310³, 312⁷, 353³; remedies, 1:39, 43.
- Cabbage caterpillars, 1:59; 9:422; Zebra, 2:216; 4:16; 5:206; 10:492; 11:265; 13:372³; 14:362⁷, 379⁹.
- Cabbage cut worm, 5:323.
- Cabbage fly (*Anthomyia radicum*), 1:186; attacking turnips, 1:185; description of stages, 1:186-87; general account, 1:184-91; natural enemies, 1:187-90; operations, 1: 184-85; 5:265-66; reference, 1:193, 208, 322; 10:486; 14:349⁹, 362¹, 363², 377⁸; remedies, 1:47, 190; 5: 158-59; 9:431.
- Cabbage gall weevil, 1:65.
- Cabbage maggot, 5:157, 158; 6:166; 9:418, 431; 10:484; 14:310⁴, 347⁹, 359⁴, 376⁴, 377¹.
- Cabbage moth caterpillars, 1:271.
- Cabbage Plusia, 9:296; 14:330³.
- Cabbage Thrips, 14:376¹.
- Cabbage worm, 1:40, 52, 59; 2:26, 27, 32; 7:337; 9:444, 446.
- Cacoecia argyrospila (syn. *Tortrix furvana*), 1:329; 5:324; 9:374; 10:483; 11:266.
- cerasivorana, 10:483.
- purpurana, 10:483.
- rosaceana, 1:329; 5:213; 6:187; 7:355; 9:418; 11:121, 266; 12: 312, 356, 360; 14:395², 399².
- rosana, 10:516; 11:266.
- cacti, *Chilocorus*, 5:300.
- Coccus, 11:201.
- Cactus, *Leptocoris trivittatus* on, 4:158; 10:438.
- prickly pear, *Dactylopius adonidum* (syn. *D. longifilis*) on, 2:56.
- cadaverina, *Lucilia*, see *Pyrellia*.
- Pyrellia* (syn. *Lucilia*), 1:299.
- Caddice cases, 6:189.
- Caddice fly, 1:79; 4:165.
- Caddice worm, 1:79; 4:190.
- Caecidotea stygia, a crustacean, 9: 349.
- Caecilius, in willow galls, 1:161.
- caelatus, *Xyleborus*, 2:54, 55.
- caementarius, *Pelopoeus*, 4:205; 11: 284; 12:359.
- Caenis nigra *Hagen M S.*, 4:123.
- Caenoma nitens, see Raspberry rust.
- caeruleocinctus, *Julus*, see *Julus caeruleocinctus*.
- caeruleum, *Chalybion* (syn. *Pelopoeus*), 3:135, 140; 4:205; 11:284; 12:359; 13:371².
- caeruleus, *Ichneumon*, 7:228.
- Pelopoeus*, see *Chalybion caeruleum*.
- caesar, *Lucilia*, 1:69, 299; 4:180; 12:210.
- caespitalis, *Pyrgus* (syn. *P. petreius*, *P. ricara*), 1:336.
- caespitum, *Tetramorium*, 11:113.
- caja, *Arctia* (syn. *Euprepria*, *E. americana*), 9:452; 14:312³.
- Euprepria*, see *Arctia*.
- Calamagrostis canadensis*, see Blue joint grass.
- Calandra (syn. *Sitophilus*), 1:305.
- granaria (syn. *C. remotepunctata*), 1:304, 316; 5:325; 6:189; 7:365; 8:278; 9:308; 10:517; 12:362; 14:367⁵, 365⁹, 369¹.
- oryzae, 7:362, 383; 9:308; 10: 511; 14:374³.
- remotepunctata, see *C. granaria*.
- calanus, *Thecla*, 11:264.
- calcarata, *Saperda*, 1:297; 11:269.
- calcaratus, *Notoxus*, 11:269.
- calceola MS., *Anthomyia*, 1:195.
- calcitrans, *Stomoxys*, 1:299; 5:221, 222, 225, 308; 7:333; 8:193; 9:444; 12:337; 13:372⁹; 14:376⁶.
- caldaria, *Sciara*, 10:396, 397-99, 510; 12:351; 14:308³, 378⁹, 393².
- Calendula, *Spilosoma virginica* on, 7:304.
- Calf tree hopper, 1:331; 11:270.
- calidum, *Calosoma*, 1:128; 8:237; 10:516; 12:209, 361.
- California academy of sciences, *Proceedings* cited, 7:225.
- California lappet moth, 11:265.
- California state board of horticulture, *Biennial report* cited, 11:222, 232; 12:293.
- californica, *Chrysobothris*, 11:267.
- Clisiocampa*, 11:265.
- Gastropacha*, 11:265.
- Heterochroa*, see *H. bredowii* var.
- Pyrrharcia*, see *P. isabella*.
- caliginosus, *Harpalus*, 8:237; 12: 209.
- caliptera, *Cecidomyia*, see *Diplosis*.
- Diplosis* (syn. *Cecidomyia*), 1: 297.
- Calista forceps, see *Scutigera*.
- Calla, *Tetranychus telarius* on, 5: 287.

- Callidium antennatum*, 13:373⁶.
 colonus, *see* *Xylotrechus*.
 species on hemlock, 4:20, 23.
Callidryas eubule, 1:72.
Callimorpha confusa, *see* *Haploa*.
 fulvicosta, 11:264.
 lecontei, *see* *Haploa*.
Calliphora fulvibarbis, 1:299.
 vomitorea, 1:69, 170, 299.
Callipterinae, 9:412.
Callipterus betulaecolens (syn. *Aphis*), 9:406, 411, 412.
 castaneae, 9:463.
 mucidus, 1:331; 11:271.
 ulmifoliae, 13:362⁷; 14:400³.
Callosamia angulifera, 4:206.
 promethea (syn. *Attacus*), cocons of, 12:338, 339, 340; experiment with larvae, 12:340; larvae of, 12:339-40; life history, 12:338-41; reference, 1:72, 98, 328; 5:324; 9:455; 11:265; 14:313³.
Callostoma fascipennis of Europe, 1:182.
calmariensis, *Chrysomela*, *see* *Galerucella luteola*.
 Crioceris, *see* *Galerucella luteola*.
 Galeruca, *see* *Galerucella luteola*.
 Pyrrhocoris, of Europe, 2:166.
Calocampa nupera, 9:459; 14:307⁶, 314⁷.
 vetusta, 9:459.
Caloptenus atlanis, *see* *Melanoplus differentialis*, *see* *Melanoplus femur-rubrum*, *see* *Melanoplus spretus*, *see* *Melanoplus*.
Calopterygina, 7:220.
Calopteryx amata, 7:220.
Calosoma calidum, 1:128; 8:237; 10:516; 12:209, 361.
 externum, 12:209.
 scrutator, 10:491, 516; 12:209, 361; 14:379⁷.
 sycophanta, 10:491; 14:379⁷.
 wilcoxi, 12:209.
Calpodes ethlius (syn. *Pamphila*), 10:502; 14:385⁷.
Calumba, *Sitodrepa panicea* in, 4:92.
Calvert, P. P., list of Odonata of New York, referred to, 11:104-5.
Camaronotus cinnamopterus, *see* *Pilophorus*.
 fraternis, *see* *Pilophorus*.
Cambridge entomological club, 14:305⁶.
Cambridge natural history cited, 11:241, 250.
Camel cricket, 4:160.
Camellia, insects injurious to;
 Aramigus fulleri, 2:142.
 ? *Parlatoria* species, 8:214, 279; 14:369⁷.
 camelliae, *Aspidiotus*, 11:271.
camelus, *Smilia* (syn. *S. vittata*), 9:389.
Cameron, Peter, *Monograph of the British phytophagous Hymenoptera* cited, 13:336⁹, 338⁶.
Camnula pellucida, 1:332; 10:443; 11:271.
Campbell, C. W., insects from, 5:324, 326.
Campbell, J. G., insects from, 12:364.
Campbell, J. P., cited, 11:127, 135.
Campbell, W. B., insects from, 8:300.
campestrana, *Sericoris*, 10:483.
campestris, *Clytus*, *see* *Xylotrechus colonus*.
Campodea fragilis, 1:101.
Camponotus, 8:300.
 herculaneus (syn. *Formica*, F. *noveboracensis*), 1:330; 2:377; 7:377; 10:365, 366, 491; 11:264; 12:181; 14:322⁵, 379⁴, 399⁴.
 var. *pennsylvanicus* (syn. *Formica pennsylvanica*), 1:62; 10:365; 11:113; 12:181, 182.
Campsomyia macellaria, *see* *Lucilia*.
Campptogramma fluviata, *see* *Perenoptilota*.
Campylenchia curvata (syn. *Enchophyllum latipes*), 9:387, 410.
cana, *Orgyia*, *see* *Notolophus vetusta* var.
Canada department of agriculture, Central experimental farm, *Bulletin* cited, 11:170; *Report of the entomologist and botanist* cited, 5:164, 216; 7:280; 8:133; 10:454; 11:250; 12:192.
Canada thistle, *Vanessa cardui* (syn. *Cynthia*) on, 1:320.
canadaria, *Melanolophia* (syn. *Tephrosia*), 4:20, 21.
 Tephrosia, *see* *Melanolophia*.
canadensis, *Leptura*, 4:20, 23.
 Panorpa, 10:478.
 Polydesmus, *see* *P. serratus*.
 Sphinx (syn. *S. plota*), 4:137; 14:350², 357⁹.
 Trirhabda, 4:142, 143; 14:350², 357⁹.
canadensisella, *Bucculatrix*, 3:136, 140; 8:106, 133-40, 297; 10:369, 497; 14:382².

- Canadian entomologist*, abstracts from, 14:307², 307⁴, 307⁹, 308⁵, 312⁵, 315⁴, 315⁵, 316⁴, 317⁴, 318⁵, 319⁶, 320⁴, 320⁵, 322⁶, 323¹, 327³, 330², 331⁶, 337³, 373⁸, 373⁷; cited, 1:99, 127, 149, 151, 157, 181, 184, 194, 201, 207, 216, 227, 233; 2:69, 89, 97, 136, 142, 203, 225; 4:35, 51, 57, 103, 104; 5:164, 174, 193, 207, 216, 234, 311; 6:179, 184; 7:225, 247, 371, 372, 373, 374, 377, 378; 8:133, 141, 152, 155, 160, 288, 289, 291, 292, 294; 9:300, 317, 318, 330, 454; 10:405, 408, 416, 417, 453, 454, 478; 11:127, 134, 135, 138, 139, 146, 157, 160, 177, 182, 232, 234, 240, 241, 249, 250, 251; 12:183, 186, 191, 218, 237, 238, 243, 248, 249, 253, 254, 265, 268, 293; 13:335⁴, 338⁴, 338⁵, 338⁷, 343⁵, 343⁶, 343⁷, 351⁹, 352², 352⁷, 352⁸, 353⁴.
- Canadian journal* cited, 7:225; 12:183.
- Canadian naturalist* cited, 7:225.
- Canady, G., insects from, 12:198.
- canaliculatus, *Valgus*, 11:268.
- Canarsia hammondi (syn. *Pempelia*), 1:329; 11:266.
- Canary grass, *Nectarophora granaria* (syn. *Siphonophora avenae*) on, 5:252.
- candida, *Cerura*, see *C. scitiscrupta*.
- Saperda, see *Saperda candida*.
- candidatum, *Poecilosoma*, 13:336⁴.
- Candy tuft, insects on;
 Phyllotreta vittata, 1:60.
 Thrips tabaci, 11:244.
- canellus, *Typophorus* (syn. *Paria aterrima*), 6:183, 188; 7:360; 9:463; 10:495, 511; 14:329⁷, 365³, 381².
- canicularis, *Cicada*, 2:179; 9:385.
 Homalomyia (syn. *Musca domestica minor*), 1:168, 171.
- caninus, *Dermestes* (syn. *D. murinus*), 9:462.
- Canker worm, destruction by, 3:84, 85; 5:258-59; 9:296; 13:365²; distribution, 1:11; 2:7; fraternal potter wasp preying upon, 6:110; reference, 1:226; 3:144; 4:185, 200; 5:318; 9:422; 11:121; 12:360; 14:340⁴, 343⁵, 344³, 349⁷, 363¹, 392¹, 396⁵, 399⁴; remedies, 1:33, 57, 64; 2:27, 44; 5:242, 259; 10:488; 12:311, 312, 350; studies of, 4:163; 8:227.
 autumn or fall, 1:329; 4:15; 5:282, 317; 11:266; 13:370; 14:398⁷. See also *Alsophila pometaria*.
- Canker worm, spring, 11:266; 12:311-12, 360; 14:331⁵, 331⁶, 338², 343⁶, 352³. See also *Paleacrita vernata*.
- Canna, insects injurious to;
 Calpodes ethlius (syn. *Pamphila*), 10:502; 14:385⁷.
 Pyrrharcia isabella (syn. *Spilosoma*), 10:502; 14:385⁷.
- Cantaloupe, insects injurious to;
 Margaronia nitidalis (syn. *Eudiotis*), 11:127, 131, 132.
 Systema elongata, 9:344.
- Cantharides, 4:92; 10:434.
- Cantharis atrata, see *Epicauta pennsylvanica*.
 marginata, see *Chauliognathus marginatus*.
 nuttalli (syn. *Lytta*), 8:294; 14:317⁴.
 vesicatoria, see *Lytta*.
 vittata, see *Epicauta*.
- Canthon, reference to paper on, 4:175; *C. laevis*, 3:102; 7:382.
- Cape jessamine, *Aramigus fulleri* on, 2:143.
- Capnia pygmaea (syn. *Perla nivicola*), 1:298; 2:239; 11:288; 14:343¹.
- capra, *Odynerus*, 9:461.
- capraea, *Cyllene*, see *Neoclytus*.
 Neoclytus (syn. *Cyllene*), 1:297.
- capreae, *Siphocoryne*, 3:123.
- caprifolium, *Abia*, see *Zaraea inflata*.
- Capsidea, 10:475; 11:248.
 species treated of, 13:351⁴-57⁸.
- Capsus oblineatus, see *Lygus pratensis*.
 quadrivittatus, see *Poecilocapsus lineatus*.
 succinctus, see *Largus*.
- captivum *How.*, *Isosoma*, 4:34, 35.
- cara, *Catocala*, 1:90.
- Carabid beetle, 1:128, 144, 145.
- Carabidae, 1:69; 3:99, 146; 4:81, 82; 5:303; 8:238; 10:491, 493, 496; 12:209, 235-37, 353.
- Caradrina fidicularia, see *C. multifera*.
 miranda, 10:482.
 multifera (syn. *C. fidicularia*), 7:375; 10:482; 14:321⁶.
- carbonarium, *Monomorium*, 10:366.
- Carcelia leucaniae, see *Winthemia quadripustulata*.
- cardinalis, *Novius* (syn. *Vedalia*), 6:105; 7:360, 382; 14:365².
 Vedalia, see *Novius*.
- cardui, *Cynthia*, see *Vanessa*.
 Pyrameis, see *Vanessa*.
 Vanessa (syn. *Cynthia*, *Pyrameis*), 1:320; 3:91; 7:228.

- Carduus*, *Peridroma saucia* (syn. *Agrotis*) on, 5:205.
caricae, *Lecanium*, see *Pulvinaria innumerabilis*.
caricinus, *Corymbites*, 11:267.
carinata, *Microgaster*, see *M. gelechia* var.
Sirthenaea, 4:113.
Carman, Mrs Frederick, insects from, 8:296.
Carnation, insects, etc., injurious to; cut worms, 8:236.
Thrips, 11:250.
Tyroglyphus heteromorphus, 11:254.
Carnation mite, 11:254-60; 12:357.
Carneades messoria (syn. *Agrotis*, *A. cochrani*, *A. repentis*), 1:58, 328, 340; 5:210; 8:188, 236; 11:121, 265.
obeliscoides, 13:372³.
perpolita (syn. *Agrotis*), 7:375; 14:321⁹.
redimicula (syn. *Agrotis*), 10:377.
scandens (syn. *Agrotis*), 1:58, 328; 11:121, 265.
tessellata (syn. *Agrotis*, *A. nigricans* var. *maizi*), 7:375, 382; 11:265; 14:321⁹.
carneola, *Erastria*, 9:456.
carnifex, *Cimex*, see *Cosmopepla*.
Cosmopepla (syn. *Cimex*), 2:144-47; 9:458; 14:314³, 342³.
Eysarcoris, see *Cosmopepla*.
Pentatoma, see *Cosmopepla*.
carolina, *Dissosteira*, 10:443.
Mantis, see *Stagmomantis*.
Phlegethontius (syn. *Sphinx*), 1:322; 8:242; 14:343³.
Sphinx, see *Phlegethontius*.
Stagmomantis (syn. *Mantis*, *M. inquinata*), 4:158-62, 193; 7:357; 8:300; 14:347³, 358³.
carolinensis, *Brochymena*, 11:270.
carolinus, *Telephorus*, 8:173.
carotae, *Aphis*, of Europe, 3:123.
Carpet beetle or bug, detailed account of two species, 9:299-306; general account (abstract), 7:372; 11:280; habits, 2:46, 47; 5:267-68; 9:303-4; 11:172-74; increased destructiveness in America, 1:9; introduction, 6:175; 7:335; lady-bird mistaken for, 4:195, 196; 6:117, 118; 9:306; occurring on flowers, 4:141; 11:172, 173; reference, 1:78, 227; 2:232; 4:131, 133, 179; 5:325; 6:120; 7:373, 374, 377; 8:292, 295; 9:302, 303; 10:498; 11:286; 12:357; 13:359³, 367⁴; 14:316⁴, 316³, 317⁵, 319³, 319³, 320³, 320⁷, 321², 322⁷, 322⁹, 325⁵, 332², 334⁵, 338⁴, 338⁵, 348⁴, 363³, 366⁹, 383⁴, 389³, 395⁷, 397⁴, 400²; remedies, 1:59, 64; 2:47-48; 7:364; 9:304-6.
black, 9:302, 304; 11:276; 14:388⁵.
Carpet bug, see Carpet beetle.
Carpet fly [*Scenopinus fenestralis*], 2:44.
Carpet moth, 1:64; 4:140.
carpini, *Psylla*, 9:404, 411.
var. *annulata*, *Psylla* (syn. *P. annulata*), 9:404, 411.
Carpocapsa deshaisiana, see *C. saltitans*.
latiferreana, see *Mellisopus*.
pomonella, attacking quinces, 2:11; 6:181; general account, 9:338-42; *Mermis* parasitic on, 4:127; 8:290; reference, 1:8, 219, 329; 2:120, 122, 123, 229; 3:144; 4:152, 206; 6:154; 7:310; 8:245, 297; 9:296, 422; 10:391, 483, 498; 11:266; 12:360; 14:314³, 328⁵, 333³, 339³, 371¹, 383³; remedies, 1:35, 58; soldier beetle feeding on, 4:85; 5:316; *Telephorus* larvae feeding on, 8:174.
saltitans (syn. *C. deshaisiana*), 4:151-54; 5:315; 6:187; 7:310; 8:292; 14:315⁴, 338³, 353¹.
Carpophilus pallipennis, 9:462.
Carrion beetle, 1:69.
Carrot, insects injurious to;
Aphis dauci, 3:123, 151.
Aphorura armata (syn. *Lipura fimetaria*), 2:210.
Epicauta pennsylvanica, 2:227; 6:135; 14:332⁷.
vittata, 6:133.
Peridroma saucia (syn. *Agrotis*), 5:205.
plant lice, 3:84, 123; 4:204; 14:346², 352³.
Carrot fly, 1:46, 49.
Carson, R. P., insects from, 4:207.
Carteria lacca, 11:201.
Carya alba, see Hickory.
porcina, see Pig nut.
caryae, *Halisidota*, 1:328; 6:187; 7:355; 8:296; 9:455; 11:264; 13:369⁷; 14:313⁵, 398⁴.
Lachnus, 5:304.
Microcentrus (syn. *Uroxiphus*), 9:392, 410.
Schizoneura, 3:125.
Uroxiphus, see *Microcentrus*.

- caryaecaulis*, *Phylloxera*, 11:248, 287.
caryatrypes, *Balaninus*, *see* *B. proboscideus*.
Carynota (syn. *Optilete*), 1:300; 9:410.
 arquata, *see* *Vanduzea*.
 marmorata (syn. *Cyrtosia*), 9:389, 410.
 mera (syn. *Membracis*), 9:388, 410.
caryosus, *Sphenophorus*, 1:261.
 Case, A. P., insects from, 8:297; 12:315, 362.
 Case bearers, 1:164, 167; 7:347; 8:217; 9:374.
casei, *Piophila*, *see* *Piophila casei*.
 Tyrophaga, *see* *Piophila*.
 Cashaws, *Margaronia hyalinata* (syn. *Eudiotis*) injuring, 11:136.
cassiae, *Silvanus*, *see* *Cathartus gemellatus*.
Cassida aurichalcea, *see* *Coptocycla bicolor*.
 bivittata, 6:127.
 clavata, *see* *Coptocycla*.
 nigripes, 6:127; 7:363, 383; 14:366¹.
Cassididae, 1:243, 306.
 Cassidy, J., cited, 11:182.
 Cassidy, M., insects from, 10:511.
Castanea americana, *see* Chestnut.
castaneae, *Atymna* (syn. *Smilia*), 9:389, 410.
 Callipterus, 9:463.
 Smilia, *see* *Atymna*.
castaneum, *Tribolium*, *see* *T. ferrugineum*.
 Castor bean, *Ecpantheria larva* fed on, 12:189; stalk borer on, 1:112.
 Castor oil plant, *Notolophus leucostigma* (syn. *Orgyia*) on, 2:77.
 Cat birds feeding on *cicada*, 12:289.
 Cat flea, 13:372⁹.
Catabena lineolata (syn. *Adipsophanes miscellus*), 10:482.
cataphracta, *Dorthesia*, *see* *Orthezia*.
 Gortyna, *see* *Hydroecia*.
 Hydroecia (syn. *Gortyna*) 1:115; 10:373-76, 509; 11:284; 12:351; 14:392⁹.
 Orthezia (syn. *Dorthesia*), 1:286.
 Catbrier, *Hadena turbulenta* on, 10:509.
catenaria, *Cingilia* (syn. *Zerene*), 4:139, 206; 8:287, 297; 9:450; 14:357⁹, 373⁸.
 Zerene, *see* *Cingilia*.
Cathartus advena (syn. *Silvanus*), 9:308.
 gemellatus (syn. *Silvanus cassiae*), 9:308, 462.
Catnip, *Thrips tabaci* on, 11:245.
Catocala, 1:71, 113, 341; 6:184; 8:292; 9:455, 459.
 cara, 1:90.
 concumbens, 1:90.
 crataegi var. *pretiosa* (syn. *C. pretiosa*), 7:375; 8:292; 14:307⁹, 316¹, 321⁷.
 grynea (syn. *C. polygama*), 1:328; 8:292; 11:121, 266; 14:316².
 nubilis, 10:482.
 nuptialis, 11:266.
 parta, 9:456; 14:313⁷.
 piatrix, 1:90.
 polygama, *see* *C. grynea*.
 pretiosa, *see* *C. crataegi* var.
 ultronia, 11:121, 266.
 unijuga, 5:282.
Catocalas occurring in the state of New York, list of, 14:315⁸.
Catodaulis (syn. *Daimio*), 1:336; 7:371.
 tethys (syn. *Daimio*), 1:336.
Catolaccus species, 10:381, 485.
Catopyrrha coloraria (syn. *Aspilates*), 11:254.
 Cattle tick, 6:156-58; 9:458; 13:375⁴; 14:368⁸.
 Caulfield, F. B., cited, 5:207; 12:243, 272.
 Cauliflower, insects injurious to;
 Lygus pratensis, 13:351⁹.
 Murgantia histrionica, 12:349, 363.
 Phorbia brassicae (syn. *Anthomyia*, *Phorbia floccosa*), 1:185, 207; 5:158, 265; 9:451.
 Pieris rapae, 9:442; 14:375⁸.
 Thrips species, 9:464.
 tabaci, 11:242, 243, 244.
c-aureum, *Grapta*, *see* *Polygonia interrogationis*.
cavicolis, *Galeruca*, *see* *Galerucella*.
 Galerucella (syn. *Galeruca*), 11:197-98, 286; 14:395⁸.
Ceanothus americanus, *see* New Jersey tea.
Cebrio bicolor, 3:100-1; 7:371; 14:319¹, 352⁸.
 gigas, 3:101.
Cebrioninae, 3:101.
Cecidomyia, 1:138, 297, 322; 3:86, 97; 7:308; 9:440.
 balsamicola, 4:60-63; 7:307; 9:440; 14:308⁴, 357⁷, 374⁸.
 betulae, 3:86, 141; 4:27, 205, 206; 11:162-65; 12:357; 14:343⁷, 357⁸, 395⁸.
 caliptera, *see* *Diplosis*.
 cerealis, *see* *Diplosis graminis*.
 crataegi, of Europe, 7:308, 364; 14:367⁹.

- Cecidomyia cucumeris*, *see* *Diplosis*.
 destructor, 1:58, 321; 4:27, 29;
 5:263, 325; 7:368; 11:165; 14:
 317^s, 325^s, 349^s, 363^s.
graminis, *see* *Diplosis*.
inimica, *see* *Diplosis*.
leguminicola (syn. *C. trifolii*
Lintn.), abundance, 5:262-63;
 change of name, 7:376, 377;
 damages by, 4:12; 8:263;
 larva, 11:164; 12:313, 356;
 parasites of, 2:2; reference,
 4:65; 6:173, 178, 184; 7:378;
 11:155, 249; 13:359¹; 14:308^s,
 320^s, 320⁶, 322^s, 322⁶, 323^s,
 324^s, 326^s, 329^s, 349^s, 363^s, 400^s,
 remedies, 1:54; Thrips de-
 stroying eggs of, 2:31; 8:255.
nlgra, *see* *Diplosis pyrivora*.
pyricola, *see* *Diplosis pyrivora*.
rigida (syn. *C. salicis*), 1:297.
salicis, *see* *C. rigida*.
salicis-batatus, 2:231; 14:334².
species, 12:361; 14:374³.
tergata, *see* *Diplosis*.
thoracica, *see* *Diplosis*.
trifolii *Loew.*, 6:184; 14:329⁹.
trifolii *Lintn.*, *see* *C. legumini-*
cola.
tritici, *see* *Diplosis*.
tubicola, 4:175.
Cecidomyiidae, 2:125; 4:60, 62, 63;
 8:140; 10:386-87, 389; 11:162-70.
cecropia, *Attacus*, *see* *Samia*.
Platysamia *see* *Samia*.
Samia (syn. *Attacus*, *Platy-*
samia), 1:72, 328; 2:77; 9:455;
 10:481; 14:265; 12:355; 13-
 371⁹; 14:313^s, 394⁷.
Cecropia caterpillar, 8:287; 14:373¹.
Cecropia moth, 1:328; 11:265; 12:
 355; 13:371⁹; 14:394⁷.
Cedar, insects injurious to;
Hylesinus, *opaculus*, 4:144.
Thyridopteryx ephemeræfor-
mis, 4:21, 203.
 red, insects injurious to, 4:20.
Cicada septendecim, 2:176.
Thyridopteryx ephemeræfor-
mis, 1:84; 4:21.
 white, *see* *Arbor vitae*.
Celastrus scandens, *see* *Bittersweet*.
celatus, *Psithyrus*, 11:104.
Celery, insects injurious to;
Lygus pratensis, 13:353^s, 354^s.
Macrops indistinctus, 10:517.
Plusia brassicae, 2:91, 92.
Celery fly, 1:49.
Celery leaf miner, 1:52.
celeus, *Phlegethontius* (syn. *Macro-*
sila and *Sphinx quin-*
quemaculatus, *Protoparce*), 1:
 56, 73, 119, 322; 3:141; 4:205;
 5:179, 309; 6:187; 7:379; 8:
 242-44; 9:461; 10:507; 13:371⁷;
 14:309^s, 323^s, 343^s, 358^s.
Protoparce, *see* *Phlegethontius*.
Sphinx, *see* *Phlegethontius*.
cellaris, *Drosophila*, 1:220.
celtidis-mamma, *Pachypsylla*, 3:141.
celtis, *Chlorippe* (syn. *Apatura*
lycaon), 1:86.
Celtis occidentalis, *see* *Hackberry*,
 American.
Cenopsis pettittana, 10:483.
reticulatana, 10:483.
Centaurea, insects injurious to;
Cecidomyia balsamicola, 4:63.
Phytomyza chrysanthemi (*P.*
lateralis in error), 4:77.
centaureae, *Hesperia* (syn. *Pyrgus*),
 1:336.
Pyrgus, *see* *Hesperia*.
centerensis, *Cossus*, 2:216; 3:140;
 7:373; 8:294; 14:307¹, 317^s, 320^s.
Centipede, 1:322; 4:128; 6:175; 7:
 324.
 flattened, 1:296; 12:301.
Centranthus ruber, *Peridroma*
sauca (syn. *Agrotis*) on, 5:205.
ceparum, *Anthomyia*, *see* *Phorbia*.
Phorbia (syn. *Anthomyia*,
Scatophaga), 1:8, 46, 169, 171,
 172-81, 204, 296, 322; 2:28; 3:
 85; 4:13; 5:319; 10:486; 14:
 335^s, 340⁷, 377⁷.
Scatophaga, *see* *Phorbia*.
cepetorum, *Phorbia*, 1:180.
Cephalomyia ovis, *see* *Oestrus*.
Cephidae, *C*:167.
Cephus pygmaeus, 3:88, 147; 7:334;
 8:167; 10:515.
trimaculatus (syn. *Phylloecus*),
 8:167.
Cerambycid beetle from Central
 America, 5:325.
Cerambycidae, family characteris-
 tics, 12:238; general habits, 4:22,
 94; injurious to apple trees, list
 of, 11:268-69; number of larvae
 described, 4:182; sense organs,
 1:69; species treated of, 3:104-5;
 4:22-23, 94-96; 5:231-33; 8:203-5;
 12:237-48; synopsis of (reference
 to), 4:175.
Cerambycids, scarcity of, 12:308.
Ceramica exusta, *see* *Mamestra*
picta.
picta, *see* *Mamestra*.
cerasi, *Aphis*, *see* *Myzus*.
Cremastogaster, *see* *C. lineolata*
 var. *cerasi*.
Eriocampa, *see* *Eriocampoides*
limacina.

- cerasi, Myzus, *see* Myzus cerasi.
 Selandria, *see* Eriocampoides limacina.
 cerasicolens, Aphis, 9:405, 411, 412.
 cerasifoliae, Aphis, 9:411.
 cerasivorana, Cacoecia, 10:483.
 Cerasophorus balteatus, *see* Chion garganicus.
 Cerasus vulgaris, *see* Cherry.
 Ceratocampa imperialis, *see* Basilona.
 Ceratocampidae, 5:199.
 Ceratomia amyntor (syn. C. quadricornis), 8:296; 10:481, 507, 508, 509; 12:359; 14:309², 309³.
 quadricornis, *see* C. amyntor.
 undulosa (syn. Doremma), 9:452; 14:312³.
 Ceratopogon, 5:280; 7:384; species, scarcity of, 12:307.
 Ceratopsyllus serraticeps (syn. Pulex), 12:361; 13:372⁹.
 Cercopidae, 1:285, 300; 4:120; 5:242; 8:152, 153.
 Cercopis lineata, *see* Ptyelus lineatus.
 obtusa, *see* Clastoptera.
 Cercus canadensis, *see* Red-bud.
 Cercyonis alope (syn. Satyrus), 4:137.
 nephele (syn. Satyrus), 5:285.
 cerealella, Alucita, *see* Sitotroga.
 Anacamptis, *see* Sitotroga.
 Butalis, *see* Sitotroga.
 Gelechia, *see* Sitotroga.
 Sitotroga (syn. Alucita, A. granella, Anacamptis, Gelechia), 1:299, 316; 2:102-10; 4:17; 6:187, 190; 9:308; 10:377-86, 485, 492, 510; 12:351; 14:342³, 377³, 379³, 391³.
 Cerealine, Silvanus surinamensis infesting, 12:361.
 cerealis, Aphis, *see* Nectarophora granaria.
 Cecidomyia, *see* Diplosis graminis.
 cerealium, Thrips, 1:303; 11:248, 249.
 Ceresa bubalus, 1:284, 315, 318, 331; 4:146-47, 208; 7:360; 8:294; 9:390; 11:270; 14:317³, 357³, 365⁴.
 diceros, 9:390.
 taurina, 1:331; 11:270.
 Ceria abbreviata, 7:229.
 cerintha, Chamyris, 9:456, 11:266; 14:313⁷.
 cerisyi, Smerinthus, 9:451.
 Cermatia araneoides, 4:133.
 coleoptrata, *see* Scutigera forceps.
 Cermatia floridana, *see* Scutigera forceps.
 forceps, *see* Scutigera.
 lincei, *see* Scutigera.
 Ceroplastes, 8:281; 14:370³.
 cirripediformis, 11:287.
 floridensis, 11:271.
 Cerostoma brassicella, *see* Plutella cruciferarum.
 Cerura aquilonaris, *see* C. scolopendrina.
 borealis, 1:137; 7:375; 9:456; 14:313⁵, 321⁶.
 caterpillars, 14:373².
 candida, *see* C. scitiscrypta.
 occidentalis, 1:137; 7:375; 14:307³, 321⁵.
 scitiscrypta (syn. C. candida), 7:375; 14:321⁵.
 scolopendrina (syn. C. aquilonaris), 7:375; 14:321⁵.
 cervicola, Stomoxys, MS., 5:222, 308.
 ceto, Melittia, *see* M. satyriniformis.
 Cetonia aurata, 1:237.
 barbata, *see* Euphoria inda.
 inda, *see* Euphoria.
 marylandica, *see* Euphoria inda.
 Cetoniadae, 1:234.
 Cetonians, larval habits of, 12:314.
 Ceuthophilus maculatus, 12:363.
 Ceutorhynchus assimilis, 1:195.
 Chaerocampa pampinatrix, *see* Ampelophaga myron.
 Chaetochilus contubernalis, *see* Ypsolophus pometellus.
 pometellus, *see* Ypsolophus.
 Chaffee, —, insects from, 3:142.
 Chaitophorus aceris (syn. Aphis), 9:406, 411, 412.
 populi (syn. Lachnus), 9:407, 411, 412.
 populifoliae (syn. Aphis), 9:406, 411, 412.
 species, 13:362²; 14:400³.
 Chalcididae, beneficial habits of, 8:275; infesting barley joints, 1:307; 4:27-35; parasitic on asparagus beetle, 1:241; on Angoumois moth, 2:110; on white marked tussock moth, 2:79; reference, 1:156, 160; 2:219; secondary parasitism of, 1:146; species treated, 10:369; studies in, 4:10, 168, 172.
 chalcidiphagus, Semiotellus, 4:33.
 Chalcids, number from a single larva, 1:146; parasite of Apanteles, 12:210; of Aphis gossypii (syn. A. cucumeris), 11:167; of apple leaf Bucculatrix, 1:159-61; of apple tree case bearer, 1:165-66; of bag worm, 1:86; of balsam Cecidomyia, 7:307; of birch Cecidomyia, 1:27; 11:165; of

- squash bug, 3:110-11; of *Odontota dorsalis*, 12:267; of peach twig moth, 1:156; of *Phora* species, 10:405; of *Scolytus rugulosus*, 4:105; of *Sitotroga cerealella*, 10:381; of vagabond *Crambus*, 1:146; reference, 12:359; 14:357³; secondary parasitism of, 8:187; 10:369; transportation to new localities, 1:61.
- Chalcis fulvipes* of *Lintn.*, erroneous reference of *C. ovata*.
ovata (*C. fulvipes* of *Lintn.* in error), 1:86; 11:132.
- Chalcophora liberta*, 11:285.
virginiensis, 12:361; 13:373³.
- Chalia rileyi*, 11:264.
- chalybea*, *Graptodera*, *see Haltica*.
Haltica (syn. *Graptodera*), 1:59, 244, 307, 317; 3:85; 4:96; 6:188, 189; 7:332, 353, 361; 8:298; 11:269, 286; 14:365⁷.
- Chalybion caeruleum* (syn. *Pelopoeus*), 3:135, 140; 4:205; 11:284; 12:359; 13:371².
- chalybistrostris*, *Crambus*, *see C. vulgivagellus*.
- chamaenerii*, *Deilephila*, 5:175; 10:508; 12:359; 14:309⁸.
- Chambers, V. T., cited, 1:151, 157, 163; 5:216; 7:296; 8:133; 11:157, 160; referred to, 11:158, 159.
- Chambliss, C. E., cited, 12:273.
- Chamomile, German, *Sitodrepa panicea* in, 4:92.
- Champion, S. B., insects from, 13:372².
- Champlin, J. P., insects from, 6:190.
- Chamyris cerintha*, 9:456; 11:266; 14:313⁷.
- Chapin, S. F., cited, 11:232.
- Charadra deridens* (syn. *Diphtera*), 9:456; 14:313⁶.
- Chariclea exprimens*, *see Pyrrhia umbra*.
- Charidryas nycteis* (syn. *Melitaea*), 9:448; 14:311⁶.
- charitonia*, *Heliconia*, 1:70.
- Chatham Republican* quoted, 12:196.
- Chauliodes pectinicornis*, 8:107, 155-59, 300; 10:497; 14:382³.
rastricornis, 8:107, 156, 157, 158, 159.
serricornis, 8:159.
- Chauliognathus americanus*, *see C. pennsylvanicus*.
hantzii, *see C. marginatus*.
marginatus (syn. *Cantharis*), 3:153; 4:84, 88; 5:316; 11:133, 138; 13:339², 346⁶, 357³.
pennsylvanicus (syn. *C. americanus*), 4:84, 86, 87; 5:316; 9:344, 463; 10:498; 12:362; 14:339³, 383⁹.
- Cheese, *Piophila casei* infesting, 12:230, 233, 234.
- Cheese mite, 3:129, 130, 151; 4:200; 5:290; 13:364³; 14:346², 349³, 363⁶, 396⁴.
- Cheese skipper, 12:229-34, 348; 14:391⁴, 399⁵. *See also* *Piophila casei*.
- Cheever, A. W., insects from, 6:188, 189.
- Chelymorpha argus*, 4:14, 201, 207; 6:188; 10:516, 517; 14:350⁸.
- chenopodii*, *Aeoloplus* (syn. *Pezotettix*), 11:272.
Pezotettix, *see Aeoloplus*.
- Chenopodium*, *see Pigweed*.
album, *see Lamb's quarters*.
- Chenu, J. C., *Encyclopédie d'histoire naturelle* cited, 2:102.
- Chermes abietis* (syn. *Adelges*, A. *abieticolens* *Thos.*, *C. abieticolens*), 2:185.
abieticolens *Thos.*, *C. abieticatratus*, *see C. strobilobius*.
corticalis of Europe, 2:184.
laricifoliae, 2:184; 8:299.
laricis, *see C. strobilobius*.
pini, of Europe, 2:184.
pinicorticis (syn. *C. pinifoliae*), 2:180-87; 4:147; 9:454; 14:312⁹, 342⁸, 357⁹.
pinifoliae, *see C. pinicorticis*.
strobilobius (syn. *Adelges*, A. *coccineus*, *C. atratus*, *C. laricis*), 1:46; 2:183, 184, 185, 187.
- Chernes sanborni*, 3:142, 6:190.
- Cherries, *Metapodius femoratus*, injurious to, 3:153.
- Cherry tree, insects injurious to;
Amphicerus bicaudatus, 2:126.
aphids, 3:84.
Aphis cerasicolens, 9:405.
Aspidiotus nerii, 5:279; 8:215; 11:204.
perniciosus, 11:224, 287.
- Cacoecia argyrospila*, 7:356.
- Carpocapsa pomonella*, 9:340.
- Chrysobothris femorata*, 6:155.
- Cicada septendecim*, 12:287.
- Clisiocampa disstria* (syn. *C. sylvatica*), 3:91, 147.
- Corimelaena pulicaria*, 8:213.
- Cremastogaster lineolata* var. *cerasi* (syn. *C. cerasi*), 10:365-66.
- Dynastes tityus*, 5:230.
- Eriocampa adumbrata*, 5:323.
- Eriocampoides limacina* (syn. *Eriocampa cerasi*), 7:352; 9:335.

- Cherry tree, insects injurious to;
Euphoria fulgida, 14:372.
Galerucella cavicollis, 11:197, 286.
Halisidota caryae, 6:187; 7:355.
Hyphantria cunea (syn. *H. textor*), 1:306.
Lachnosterna fusca, 1:317.
Macroductylus subspinosus, 1:229, 230; 2:225; 4:142; 5:154, 320; 9:420.
Myzus cerasi (syn. *Aphis*), 1:13; 2:21; 3:151; 5:254; 8:125; 9:293, 345-46, 369, 405, 463; 12:350; 13:363³, 368⁴.
Notolophus leucostigma (syn. *Orygia*), 2:77.
Phobetron pithecium, 2:227; 5:186, 187.
Scolytus rugulosus, 3:152; 4:105, 106, 186; 5:319; 7:383.
Sibine stimulea (syn. *Empretia*), 12:360.
Thyridopteryx ephemeraeformis, 1:84.
Tmetocera ocellana, 7:306.
black; *Chionaspis furfurus* on, 11:203.
choke, insects, etc., injurious to;
bag worm, 1:84.
black knot, 5:281.
cecidomyid, 12:313, 356, 361; 14:395², 399⁴.
Chionaspis furfurus, 11:203.
wild; insects injurious to;
Basilona imperialis (syn. *Eacles*), 13:344⁷.
Clisiocampa americana, 5:152.
Galerucella cavicollis, 11:197.
Lycia ursaria (syn. *Biston*), 3:136.
Mytilaspis pomorum, 11:202.
Myzus cerasi, 5:256.
Phobetron pithecium, 5:187.
Tolyte laricis, 1:88.
Cherry leaf beetle, 11:197-98; 12:357; 14:395⁸.
Cherry tree aphid, 1:13; 3:151; 5:253, 257; 8:125; 9:293, 345, 346, 369, 405, 440; 10:366, 498; 12:350; 13:363³; 14:362⁹, 371⁹, 375², 383⁴, 392³, 397⁸.
Cherry tree scale, 11:271.
Cherry tree slug, 1:60; 7:352; 9:335-36; 10:498; 14:383⁷.
chersis, *Sphinx* (syn. *S. cinerea*), 7:381; 10:508; 14:309⁸.
Chess, soft, *Nectarophora granaria* (syn. *Siphonophora avenae*) on, 5:252.
Chester, W. M., insects from, 11:287.
Chestnut, insects injurious to;
Atymna castaneae (syn. *Smilia*), 9:389.
inornata (syn. *Smilia*), 9:388.
Balaninus proboscideus (syn. *B. caryatrypes*), 7:383; 10:501; 12:268.
rectus, 12:267, 268.
Basilona imperialis (syn. *Eacles*), 13:344⁹.
Callipterus castaneae, 9:463; 10:463.
Cicada septendecim, 2:176; 12:287.
Corythuca arcuata, 4:109.
polygrapha, 4:109.
Dynastes tityus, 11:274.
Elaphidion villosus, 9:358, 359.
Halisidota tessellaris, 5:308.
Phobetron pithecium, 5:187.
Sibine stimulea (syn. *Empretia*), 13:371⁸.
Telamona reclinata, 9:391.
Spanish, *Halisidota tessellaris* injuring, 5:308; 14:356⁴.
Chestnut weevil, great, 10:501, 517; 12:269.
smaller, 12:270.
Chestnut weevils, bibliography, 12:267-68; extent of injuries, 12:269; life history of two species, 12:270-71; reference, 10:501; 14:384⁹, 399⁷; remedies and preventives, 12:271-72; value of crop affected, 12:268-69.
Chestnut worm, *see* Chestnut weevil.
Chevrolat, Aug., cited, 10:414.
Chick-pea, *Heliothis armiger* on, 1:120.
Chickadee feeding on army-worm, 12:209; on canker worm, 2:8.
Chickasaw plum, *Phytoptus pruni* on, 12:318, 350.
Chicken louse, 5:290.
Chickweed, *Peridroma saucia* (syn. *Agrotis*) on, 5:205.
Chilocorus, 11:232.
bivulnerus, 2:186; 5:267, 300; 10:501; 12:361; 14:385².
cacti, 5:300.
Chilognatha, 10:445-49; 12:300-3.
Chilopoda, 4:128, 132; 7:324.
Chimarocephala viridifasciata, *see* *Chortophaga*.
China asters, *see* *Asters*, China.
China tree, *Ceroplastes cirripediformis* on, 11:287.
Chinch bug, affected by fungus, 12:262; 13:369⁴; description of, 2:150-51; detailed account, 2:148-64; dimorphic form, 2:

- 155-56; discovery in New York; 2:4; distribution; 2:164; estimated loss by, 1:7; 2:157; 12:341; history, 2:151-52; injuries, 2:156-57; 7:331-32; 11:198-99; life history, 2:153-54; *Megilla maculata* preying upon, 4:83; operations in New York, 2:157-60; reference, 1:17, 195, 297, 302, 308, 316; 2:166, 232, 233; 4:7, 163; 5:317; 8:265; 9:312; 10:436, 443; 12:315, 356, 357; 13:361³, 369³, 374⁵; 14:334⁷, 334⁹, 335², 342⁸, 395², 395⁹, 398², 399⁵; remedies, 1:58; 2:160-63. false, 1:195, 331; 2:166; 5:321; 11:270; 14:341⁵.
- Chinco, chintz, chink bug, 2:152.
- chinensis, *Bruchus* (syn. *B. scutellaris*), 6:127; 7:282, 383; 8:295; 10:382; 14:317⁸, 367⁹.
- Chinquapin, insects injurious to; *Balaninus proboscideus*, 12:263. rectus, 12:268, 271.
- Chion cinctus, 1:330; 4:95; 11:268. garganicus (syn. *Cerasphorus balteatus*), 1:330; 4:95; 11:268.
- Chionaspis euonymi, 11:288. furfurus, 1:331; 4:208; 5:300, 326; 8:293, 299, 9:440, 441, 464; 10:518; 11:202-3, 271, 288; 12:348; 13:368⁵, 374⁹; 14:316⁶, 316⁷, 353², 375³, 391⁵, 397⁸. pinifoliae (syn. *Aspidiotus*), 2:180, 184; 5:266; 7:366, 384; 9:377; 10:518; 11:203; 14:368⁵. salicis, 9:411.
- Chionea valga, 2:236.
- chionosema, *Penthina*, 10:483; 11:266.
- Chip manure, *Euphoria inda* breeding in, 12:313, 362.
- Chipping sparrow feeding on army worm, 12:209.
- Chironomus nivoriundus, 1:13, 298; 2:242; 14:343³.
- Chiropachys colon, 4:105.
- Chism, C. J., on 12-spotted asparagus beetle, 12:249.
- Chittenden, F. H., cited, 10:378, 408; 11:182; 12:194, 249, 254, 265, 266.
- Chlamys plicata, 12:362.
- Chloe pygmaea, *see* Baetis.
- Chlorippe celtis (syn. *Apatura lycaon*), 1:86. clyton (syn. *Apatura herse*), 1:86. cocles (syn. *Apatura*), 5:317; 14:306⁶, 339⁸.
- chloris, *Parasa* (syn. *P. fraterna*), 1:328; 5:186, 190; 9:443; 11:264; 14:375⁹.
- chlorophaea, Mantis, *see* Theoclytes.
- Theoclytes (syn. Mantis), 4:162.
- Chloropisca copiosa, 4:70. grata, 4:71. prolifica, *see* C. variceps. trivialis, 4:71. variceps (syn. C. prolifica), breeding place, 4:68, 69; 7:238-40; detailed account, 4:67-72; 7:234-41; distribution, 7:235; 9:313; general features of, 7:240-41; habits of, 7:236-38; hibernation of sexes, 7:240; original description, 4:70-71; reference, 4:207; 6:118; 7:359, 382; 8:297; 9:440; 14:357⁸, 364³, 364⁵, 374⁴; remarkable assemblage, 4:67-70, 72; 6:118; 7:216, 234-35, 241, 358.
- Chlorops, assemblage of, 4:67, 72; 9:313; larvae in stems and roots of grass, 4:68; reference, 1:223, 224, 344; 4:70; 8:167, 300; species in grain fields, 1:225, 226.
- Chlorops antennalis, *see* Sapromyza vulgaris. laeta, of Europe, 4:72. lineata, of Europe, 1:226; 4:72. nasuta, of Europe, 4:72. proxima, 1:226. pumilionis, *see* Oscinis. vulgaris, *see* Sapromyza.
- Chlorotettix tergata (syn. *Bythoscopus*), 9:398, 410. unicolor (syn. *Bythoscopus*), 9:398, 410.
- Chocolate, *Sitodrepa panicea* in, 4:92.
- Choerocampa pampinatrix, *see* Amelophaga myron.
- Choisya ternata, *Heraclides cressphontes* (syn. *Papilio*) on, 9:336, 337, 461.
- chortalis, *Eurycreon*, *see* Loxostege. Loxostege (syn. *Eurycreon*), 11:284.
- Chortophaga infuscata, *see* C. viridifasciata. viridifasciata (syn. *Aceridium hemipterum*, *A. marginatum*, *A. virginianum*, *A. viridifasciatum*, *Chimarcephala*, *Chortophaga infuscata*, *Tragocephala*), 2:4, 187-98, 223; 9:298, 330-34, 439, 464; 10:443, 498; 11:271; 12:363; 14:330⁹, 331¹, 342⁹, 373⁹, 383⁶.

- Chortophila*, 1:171, 180, 181, 184.
angustifrons, *see* *Phorbia fusciceps*.
betae, *see* *Pegomyia*.
betarum, *see* *Pegomyia*.
cilicrura, *see* *Phorbia fusciceps*.
conformis, 1:209.
floccosa, *see* *Phorbia brassicae*.
chrysanthemi, *Aphis*, of Europe, 2: 20, 21.
Phytomyza (*P. affinis* and *P. lateralis* in error), 4:75-79, 207; 7:242-46; 9:421; 10:510; 14:357³, 374⁵.
Chrysanthemum, insects injurious to;
 aphids, 5:162.
Aphis middletonii, 14:385³.
Diabrotica 12-punctata, 7:217, 382.
Epicauta pennsylvanica, 6:170; 14:361⁷.
Eristalis tenax, 7:382.
Lygus pratensis, 13:353¹.
Myzus cerasi (syn. *Aphis*), 2: 21.
Phytomyza chrysanthemi (*P. lateralis* in error), 4:77, 207; 7:242, 244; 9:421.
Poecilocapsus lineatus, 1:277.
 Japanese, *Phytomyza chrysanthemi* on, 7:245.
Chrysanthemum frutescens, *see* Daisy.
Chrysanthemum fly, 7:242-46; 10: 510; 14:374⁵.
Chrysididae, 4:172.
Chrysobothris, 14:323³.
californica, 11:267.
contigua, 11:267.
femorata, food plants, 4:155; occurrence in small limbs, 6: 154; 7:379; reference, 1:330; 10:488; 11:267; 12:356; 13: 365⁴; 14:378⁵, 394⁹, 396⁶; remedies, 1:58, 64, 303; 2:25, 27. *semisculpta*, *see* *C. contigua*.
Chrysochus auratus, 4:142; 14:350², 357⁹.
Chrysomela californiensis, *see* *Gal- erucella luteola*.
rufipes, *see* *Crepidodera*.
scripta, *see* *Melasoma*.
scutellaris, *see* *Odontota dor- salis*.
trimaculata, *see* *Doryphora cli- vicollis*.
Chrysomelidae, characters of (ab- stract), 4:196; reference, 4: 181; 5:271; 14:348⁴;
 members of treated;
 alder flea beetle, 4:96-101.
Chrysomelidae, members of treated;
 asparagus beetles, 1:239-46; 6:179; 8:250-53; 11:177-81; 12:248-52.
 broad striped flea beetle, 4: 155-56.
 cherry leaf beetle, 11:197-98.
 cottonwood leaf beetle, 11: 181-89.
 elm leaf beetle, 4:143-45; 5: 234-42; 11:189-97; 12:253-64.
Odontota dorsalis, 12:264-67.
 plaitain leaf miner, 10:414- 16.
 red footed flea beetle, 4:101-2.
 species attacking apple trees, 11:269.
 striped cucumber beetle, 10: 413-14.
 three lined leaf beetle, 2:132- 36; 10:491.
 tortoise beetles, 6:125-27.
Trirhabda canadensis, 4:142- 43.
Chrysopa, 1:177; 2:186; 10:429; 12: 262; larvae, 5:244.
Chrysophanus americanus, *see* *Heodes hypophlaeas*.
hypophlaeas, *see* *Heodes*.
Chrysopila thoracica, 9:462.
Chrysops niger, 9:462; 12:361.
 species, 12:361.
chrysotheme, *Colias*, *see* *Eurymus eurytheme*.
 Church, —, insects from, 3:142.
 Churchill, G. W., insects from, 7: 383, 384.
Cicada, 1:69, 287, 310; 2:35; 4:165; 5:276; 6:153; 9:319, 385; 14: 342³, 348², 365³, 374⁷, 377⁶, 384⁸, 385⁵, 393⁵, 399⁷; harmlessness of, 12:288.
 dog day, 1:331; 7:383; 9:385; 11: 270; 12:270, 363; 13:374⁶.
 frosted, 9:385.
Cicada canicularis, 2:179; 9:385.
lineata, *see* *Ptyelus lineatus*.
noveboracensis, *see* *C. rimosa*.
pruinosa, *see* *C. tibicen*.
rimosa (syn. *C. noveboracensis*, *Tibicen*), 9:385, 410; 11:270.
septendecim, bibliography, 2: 167-68; 7:296-97; 12:272, 273; broods in N. Y. 2:170-72; 5: 276; 7:218, 297-301, 361-62; 10: 421; 12:277, 279; broods in U. S. 2:169-70; 4:175; chambers of, 10:423, 502; 12:279-83; comparative numbers of suc- cessive broods, 12:285-86; contributions of, 10:518, 519; experiments with 13-year brood, 5:276-78; 12:277; fun-

- gus destroying, 2:178-79; general account, 2:167-79; 7:296-301; 10:420-25; 12:272-89; Hudson valley brood, 12:277; injuries to vegetation, 2:176-77; 12:286-87; life history, 2:173-75; 12:274-77; musical apparatus, 2:175; natural enemies, 2:177-78; 12:288, 289; oviposition, 12:274-75; preventives, 2:178; 12:289; reference, 1:79, 309, 331; 4:175, 177, 179, 202; 5:318, 322; 6:153; 7:218; 9:333, 385, 440; 10:356, 500; 11:270, 284; 12:274, 352; 14:332¹, 340¹, 342⁸, 348⁸, 365⁹, 374⁷, 377⁸, 384⁸, 399⁷; stings of Cicada, 12:287-88; 13-year brood, 1:331; 2:169, 225; 4:175, 200; 5:276-78, 318, 322; 7:301; 10:421; 11:270; 12:276, 277; trees attacked by, 2:176; 4:20, 25; 10:276-77. septendecim race tredecim, 10:500, 518. *See also* Cicada septendecim, 13-year brood.
var. cassinii, 10:424; 12:279.
 spumaria, *see* Philaenus.
 tibicen (syn. *C. pruinosa*), 1:331; 4:196, 202; 6:189; 7:383; 9:410; 10:517; 518, 519; 11:270; 12:274, 363; 13:374⁸; 14:348⁸, 350⁸.
Cicadidae, 1:300; 2:213; 9:385; 10:420-25; 11:270; 12:279-89.
Cicadula exitiosa, *see* Limotettix.
Cicer arietinum, *see* Chick pea.
Cicindela, *generosa*, 9:462.
 repanda, 7:219; 10:377; 12:209.
 6-guttata, 9:462.
 vulgaris, 11:285.
Cicindelidae, 4:182; 11:106; 12:308, 320.
Cidaria, 1:72.
 packardata, *see* *Eustroma populatum*.
ciliata, *Corythuca* (syn. *Tingis*, *T. hyalina*), 4:107-9, 208; 14:357⁸.
 Psorophora (syn. *Culex*), 12:327.
 Tingis, *see* *Corythuca*.
ciliatus, *Culex*, *see* *Psorophora ciliata*.
cilicrura, *Chortophila*, *see* *Phorbia fusciceps*.
 Homalomyia, *see* *H. fuscula*.
 Phorbia, *see* *P. fusciceps*.
Cimbex americana, 1:138; 8:300; 11:284.
cimbiciformis, *Mallota*, *see* *M. posticata*.
Cimex carnifex, *see* *Cosmopepla*.
 cristatus, *see* *Prionidus*.
Cimex juniperinus, *see* *Pentatoma juniperina*.
 lectularius, *see* *Acanthia lectularia*.
 pratensis, *see* *Lygus*.
 rubrocinctus, *see* *Largus succinctus*.
 succinctus, *see* *Largus*.
Cincinnati commercial cited, 1:127.
Cincinnati daily gazette cited, 1:127.
Cincinnati quarterly journal of science cited, 11:160.
Cinnus melsheimerii (syn. *Pero-phora*), 7:381.
cinctaria, *Phigalia*, *see* *Rhaphidomermas titea*.
cincticollis, *Clastoptera*, subspecies, 9:394.
cinctus, *Chion*, 1:330; 4:95; 11:268.
 Emphytus, 10:499; 14:384¹.
 Harpactor, *see* *Milyas*.
 Largus, 2:165.
 Milyas (syn. *Harpactor*), 1:331; 3:108.
 Theriopectes, 13:372⁸.
cinderella, *Teras*, *see* *T. minuta* var.
Cineraria, *Phytomyza chrysanthemi* (*P. lateralis* in error) on, 4:75; 7:242, 244; 9:421, 10:510.
cinerea, *Bolitophila*, 10:392.
 Epicauta (syn. *E. marginata*, *Lytta marginata*), 1:33, 57; 4:201, 208; 6:134, 135, 136, 182; 8:294; 12:354, 361, 14:317¹, 328³, 350⁸, 367⁹, 394³.
 Meloe, *see* *Epicauta*.
 Sphinx, *see* *S. chersis*.
 Xylina, *see* *X. antennata*.
cinereus, *Melanoplus*, 11:272.
Cingilia catenaria (syn. *Zerene*), 4:139, 206; 8:287, 297; 9:450; 14:357⁹, 373³.
cingulata *Oncideres*, 1:331; 2:87; 11:125, 269.
 Phlegethontius (syn. *Sphinx*), 10:507; 14:309⁸.
 Sphinx, *see* *Phlegethontius*.
cingulatus, *Leistotrophus*, 1:187.
cinnamomeum, *Tribolium* *see* *T. ferrugineum*.
cinnamopteris, *Camaronotus*, *see* *Pilophorus*.
 Pilophorus (syn. *Cameronotus*) 2:186.
 Staphylinus, 1:188.
Cinquefoil, *Thrips tabaci* on, 11:244.
Cionus scrophulariae, 1:248.
cippus, *Euclea* (syn. *E. querceti*), 1:328; 5:186; 11:264.
Circotettix verruculatus, 10:443.
circularis, *Aspidiotus*, *see* *Diaspis pyri*.

- circumcinctus, *Perillus*, 2:146.
 cirripediformis, *Ceroplastes*, 11:287.
Cirrospilus flavicinctus, 1:159, 160.
Cis fulvipes erroneous reference of
 C. fuscipes.
 fuscipes (*C. fulvipes* in error),
 9:462.
Cissus, *Aramigus fulleri* on, 2:143.
Cistela obscura, *see* *Hymenorus ob-*
 securus.
 sericea, 6:130.
Cistelidae, 2:226; 6:129; on apple,
 11:269.
Cistogaster immaculata, 12:210.
Citheronia imperialis, *see* *Basilona*.
 regalis, 5:324, 13:347.
citri, *Dactylopius* (syn. *D. destruc-*
 tor), 3:138.
citrinus, *Psithyrus*, 11:104.
Cixius impunctatus, *see* *Myndus*.
 pini, 9:385.
 quinquelineatus, *see* *Oliarus*.
 stigmatus, 9:385.
Cladius isomera, 7:224.
 pectinicornis, 10:499; 14:384.
 viminalis, *see* *Trichiocampus*.
Cladosporium fulvum, *see* *Tomato*
 rot.
clandestina, *Agrotis*, *see* *Noctua*.
 Noctua (syn. *Agrotis*), 1:328; 5:
 282, 317; 6:175; 8:199, 235;
 10:482; 11:121, 265; 14:325,
 339.
clarescens, *Acronycta*, erroneous
 reference of *A. pruni*.
 Clarke, F. L., insects from, 12:363.
 Clarke, J. M., insects from, 5:326.
 Clarkson, A., insects from, 6:189.
 Clarkson, Frederick, cited, 4:35; 5:
 193, 234; on *Cicada*, 12:285.
Clastoptera, 4:120.
 achatina, *see* *C. obtusa*.
 atra, 9:394.
 cincticollis, subspecies, 9:394.
 flavicollis, subspecies, 9:394.
 maculicollis, subspecies, 9:394.
 nigricollis, subspecies, 9:395.
 obtusa (syn. *C. pini*, *C. testa-*
 cea, *Cercopis*), 1:285; 5:242-
 46; 8:152-55, 299; 9:393-94,
 410; 10:497; 14:362⁹, 382³.
 pini, *see* *C. obtusa*.
 proteus, 1:285; 5:245; 9:394.
 testacea, *see* *C. obtusa*.
clavata, *Cassida*, *see* *Coptocyela*.
 Coptocyela, 1:33, 57; 5:322; 6:
 126, 127; 7:382; 9:454; 13:
 374; 14:325⁶, 341⁸, 367⁸.
 Deloyala, *see* *Coptocyela*.
 Claypole, E. W., cited, 1:116; 5:193;
 12:214; quoted, 12:216.
claypoliana, *Proteoteras*, *see* *Stegan-*
 optycha.
claypoliana, *Steganoptycha*, *see*
 Steganoptycha claypoliana.
Clematis, insects injurious to;
 Epicauta cinerea, 14:350³.
 vittata, 6:133.
 Spilomyia fusca, 7:229
Clematis flammula, *see* *Virgin's*
 bower, sweet-scented.
Clemens, Brackenridge, cited, 1:81,
 127, 151, 157; 2:102; 5:213, 215;
 7:225; 11:152, 157, 160; 12:183;
 quoted, 11:157-58, 161.
Clementi, V., cited, 12:237.
Cleora crepuscularia (syn. *Boar-*
 mia), 11:266.
 pampinaria (syn. *Boarmia*), 11:
 266.
 pulchraria, *see* *Nepytia semiclu-*
 saria.
Cleridae, 4:142.
Clerus anilis, 4:142.
 formicarius, 10:500; 14:384⁷.
 Cleveland academy of science,
 Transactions cited, 4:114.
Clisiocampa ambisimilis, 11:265.
 americana, depredations on
 apple trees, 1:328; 3:85; 5:
 152; 6:106; 7:215; destroying
 eggs of, 1:56; hermaphrodite
 of, 7:220; reference, 1:85; 2:
 83; 3:92, 147; 5:324; 6:165,
 181; 7:331, 359; 8:122; 9:293,
 456, 461; 10:481, 495; 11:121,
 265; 12:307, 353, 360; 13:363³,
 372³; 14:313⁵, 328³, 354⁴, 358⁹,
 359⁵, 364⁷, 375⁵, 376⁵, 380⁹, 393⁹,
 396⁹; remedies, 5:304; 10:441.
 californica, 11:265.
 constricta, 8:296.
 disstria (syn. *C. sylvatica*),
 abundance in Washington co.,
 N. Y., 6:106, 166; 7:331; *Di-*
 brachys boucheanus (syn.
 Semiotellus clisiocampae),
 parasitic on, 6:186; feeding
 on apple trees, 3:91-93, 147;
 muscardine destroying, 4:178;
 race erosa, 11:265; reference,
 1:328; 2:83; 10:495; 11:265,
 284; 13:372²; 14:344⁹, 352³,
 359⁷, 380⁹; remedies, 3:93;
 var. thoracica, 11:265. *See*
 also *Forest tent caterpillar*.
 pluvialis, 11:265.
 sylvatica, *see* *C. disstria*.
 thoracica, *see* *C. disstria var.*
clisiocampae, *Semiotellus*, *see* *Di-*
 brachys boucheanus.
clitellarius, *Bythoscopus*, *see* *Tham-*
 notettix.
 Thamnotettix (syn. *Bythosco-*
 pus), 9:398, 410.

- Clitocybe illudens*, Phorid infesting, 12:361.
clivicollis, *Doryphora* (syn. *Chrysomela trimaculata*), 7:369; 14:318³.
 Cloaked *Chrysomela*, 1:331; 11:269.
 Close wings, 1:40.
 Clothes moth, 1:64; 4:131, 133, 140, 147; 11:276.
Clothilla picea, see *Lepinotus piceus*.
pulsatoria (syn. *Atropos pulsatorius*), 1:162, 298, 316; 2:201, 202; 5:323; 14:341³.
 Clover, insects injurious to;
 Blissus leucopterus, 2:4, 159; 7:331.
 Bryobia pratensis, 6:161; 7:321-24; 9:440.
 Cecidomyia leguminicola (syn. *C. trifolii* *Lintn.*), 1:54; 2:2; 4:12; 6:173, 178, 184; 7:374, 378; 8:255, 256, 263; 11:155; 13:359²; 14:323³.
 trifolii *Loew.* 6:184.
 Grapholitha interstinctana, 10:496; 11:152.
 Heliothis armiger, 1:119.
 Hylastes trifolii, 1:54; 7:378; 14:323³.
 Languria mozzardi, 6:184.
 Leucania unipuncta, 12:206, 309.
 Meloe angusticollis, 6:130.
 Nephelodes minians var. *violans*, 1:103.
 Noctua fennica (syn. *Agrotis*) 8:326.
 Notolophus leucostigma (syn. *Orgyia*), 2:84.
 Odontota dorsalis, 12:266.
 Oscinis trifolii, 6:184.
 Peridroma saucia (syn. *Agrotis*) 5:205.
 Phytonomus meles var. *trifolii*, 1:248.
 nigrirostris, 1:248.
 punctatus, 1:247-51; 2:14; 5:272, 312; 6:182; 10:488.
 Plusia brassicae, 2:91.
 Poecillocapsus lineatus, 1:277.
 Pyralis costalis, 10:487; 11:149; 13:358³.
 farinalis, 11:151.
 Thrips, 11:247, 249.
 tritici, 1:303.
 mammoth, free from *Grapholitha*, 11:155.
 sweet, Thrips *tabaci* on, 11:244.
 white, *Grapholitha interstinctana* in, 11:155.
 Clover hay caterpillar or worm, 10:487; 11:145-51; 12:357; 13:358², 372⁴; 14:378², 395⁸, 400⁵.
 Clover insects, reference to publications on, 5:316; 11:149; 14:339³.
 Clover leaf midge, 6:184; 14:329³.
 Clover leaf weevil, 1:247-53; 2:3; 4:200; 5:272, 312; 6:182; 7:315; 10:488, 511; 14:329², 336¹, 349⁶, 363³, 375⁵, 378⁴.
 Clover mite, 7:321-24; 9:440; 10:450; 11:272; 13:375⁴; 14:374⁷.
 Clover root borer, 1:8, 54, 247; 6:178, 184; 7:335; 14:326³, 329³.
 Clover seed caterpillar, 10:496; 11:152-56; 12:357; 14:381⁴, 395².
 Clover seed fly, 7:374, 376; 14:320², 320³, 322³.
 Clover seed midge, abundance of, 5:262-63; reference, 2:125; 4:65, 200; 6:178, 184; 8:263; 11:155; 13:359¹; 14:326³, 329³, 349⁶, 363², 400⁵; remedies, 1:54; 4:12; Thrips destroying eggs of, 2:31; 8:255.
 Cluster fly, 2:117; 9:309-14, 439; 10:498, 516; 13:370³; 14:375¹, 383³, 398³.
 clyton, *Chlorippe* (syn. *Apatura herse*), 1:86.
 Clytus *agrestis*, see *Xylotrechus colonus*.
 campestris, see *Xylotrechus colonus*.
 colonus, see *Xylotrechus*.
 pictus, see *Cyllene*.
 robiniae, see *Cyllene*.
 speciosus, see *Plagionotus*.
 c-nigrum, *Agrotis*, see *Noctua*.
 Noctua (syn. *Agrotis*), 1:8; 10:482; 12:205.
 cnotus, *Otus*, see *Ampelophaga myron*.
 coactus, *Eristalis*, see *Mallota posticata*.
 Cobb, N. A., cited, 10:454.
 Coccidae Encyrtinae parasitic upon, 1:160; Fitch species of, 9:409, 413; parasites of, studies upon, 1:18; prolificacy, 4:187; reference, 1:284, 300; 2:140, 230; 3:141; 7:310; 8:254; 9:381, 411, 447; 12:295, 298; species attacking apple trees, 1:331, 332; 11:271; species treated of, 4:114-20; 6:141-47; 11:200-33; 12:292-98; studies of, 1:18; 4:168.
 cocciformis, *Parmula*, see *Microdon globosus*.
 coccinea, *Diedrocephala* (syn. *Proconia quadrivittata*), 9:395-96, 410.
 Empoa, see *Typhlocyba*.
 Typhlocyba (syn. *Empoa*), 9:403, 410.

- Coccinella*, five marked, 1:318.
Coccinella bimaculata, *see* *Adalia bipunctata*.
bipunctata, *see* *Adalia*.
borealis, *see* *Epilachna*.
decemmaculata, *see* *Megilla maculata*.
maculata, *see* *Megilla*.
novemnotata, 7:382; 11:276; 12:361.
quinquenotata, *see* *C. transversoguttata*.
sanguinea, 7:382; 8:300.
transversoguttata (syn. *C. 5-notata*), 1:318.
- Coccinellidae*, colonizing of, for plant lice, 1:61; herbivorous habits of some species, 2:233-34; 4:81-83; 7:217, 310-11; preying on pine bark *Chermes*, 2:186; preying on plant lice, 5:254; 6:118; 8:275; 10:429; preying on scale insects, 7:341; reference, 11:106; 12:308; 13:362; species treated of, 4:80-84; 6:117-19.
- coccineus*, *Adelges*, *see* *Chermes strobilobius*.
coccophila, *Sphaerostilbe*, 13:368.
Coccotorus prunicida, *see* *C. scutellaris*.
scutellaris (syn. *C. prunicida*), 4:17; 11:270.
- Coccus*, 2:140, 183; 9:447; 14:311.
aceris, *see* *Pulvinaria innumerabilis*.
arborum-linearis, *see* *Mytilaspis pomorum*.
cacti, 11:201.
hesperidum, erroneous reference of *Pulvinaria innumerabilis* *Rathv.*
innumerabilis, *see* *Pulvinaria*.
macluræ Kenn., *see* *Pulvinaria pinicorticis*, *see* *Chermes*.
pyrus-malus, *see* *Mytilaspis pomorum*.
salicis, *see* *Lecanium*.
tiliae, *see* *Lecanium tulipiferae*.
ulmi, *see* *Gossyparia*.
- Coccygus americanus*, *see* Cuckoo, yellow billed.
erythrophthalmus, *see* Cuckoo, black billed.
- Cochineal*, from *Coccus cacti*, 11:201.
- cochrani*, *Agrotis*, *see* *Carneades messoria*.
- Cockchafer*, 1:305.
- Cockerell*, T. D. A., cited, 7:256; 10:433; 11:146, 232, 233, 250; 12:193, 293; 13:353.
- Cockle bur*, *Hydroecia nitela* (syn. *Gortyna*) on, 1:112.
- Cockroach*, 1:62, 65, 79, 343; 4:126, 159; 11:112; 12:332.
- Cockroach killer*, 7:325.
- Cockscomb elm gall*, 3:126; 4:198, 204, 208; 5:303, 326; 7:370; 14:318⁶, 346³, 349², 352⁴, 354¹.
- cocles*. *Apatura*, *see* *Chlorippe*.
Chlorippe (syn. *Apatura*), 5:317; 14:306⁶, 339⁸.
- Codling moth*, attacking quinces, 2:11; habits in detail, 9:338-42; *Mermis* parasitic on, 4:127; paris green and bordeaux mixture for, 9:435; reference, 1:8, 11, 329; 2:14, 120, 123, 125, 229; 3:144; 4:103, 152, 185; 5:300, 305, 321; 6:154; 7:307, 310, 343; 8:274; 9:296; 10:391, 498; 11:120, 133, 266, 279; 14:333⁵, 344³, 353², 378¹, 383⁸; remedies, 1:35, 60, 167; spraying for, 9:417, 433; 10:487, 488; *Telephorus bilineatus* feeding on the larvae of, 8:174.
- Coe, A. J., cited, 8:141.
- Coelidia olitoria*, *see* *Jassus olitorius*.
subbifasciata, *see* *Jassus olitorius*.
- Coelodasys unicornis*, *see* *Schizura*.
Coelopa frigida, 4:174.
- coenia*, *Junonia*, 7:381.
- Coffee leaf miner*, 1:161.
- cognataria*, *Amphidasys*, *see* *Lycia*.
Lycia (syn. *Amphidasys*), 2:97-101, 227; 9:456; 11:266; 14:313⁷, 332⁸, 342⁵.
- Colaspidea smaragdula*, 11:269.
- Colaspis brunnea*, 1:321; 6:183.
- Colastes*, parasite of *Gossyparia*, 12:293.
- Cole*, T. A., insects from, 8:297; 10:510; 11:287.
- Coleman*, N., cited, 2:57; 69; 7:225.
- Coleman*, W. H., insects from, 9:463; 10:518; 11:287; 13:371⁴, 371⁶.
- Coleman's Rural world* cited, 10:388.
- Coleophora*, 1:166; 5:324; 7:347, 361; 8:264, 297; 9:374; 10:510, 516.
- anatipennella*, of Europe, 1:163.
- fletcherella*, 9:374; 10:510; 11:267; 12:307, 360.
- malivorella*, 1:163-67, 329; 2:225; 6:178; 8:105, 123, 217, 281, 297; 11:122, 267; 14:326⁹, 331⁸, 335⁷, 370⁷.
- multipulvella*, *see* *C. malivorella*.
species, 14:365⁴.
- Coleoptera*, antennal furrows of, 1:69; chalcids parasitic on, 1:160;

- classification of, 1:78, 79; 4:167, 190; contributions of, 3:141; 4:207-8; 5:325; 6:188-89; 7:382-83; 8:298-99; 9:462-63; 10:510-11, 516-17; 11:285-87; 12:361-62; description of larval forms, 1:22; Glover's work on, 1:19; Gordius parasitic on, 4:126; injurious to apple trees, list of, 1:330-31; 11:267-70; injurious to hemlock, list of, 4:20-24; larvae in U. S. nat. museum; 9:354; Le Baron's work on, 1:17; Le Conte's work on, 4:9-10; number of species described, 4:164, 181; oviposition of, 1:74; reference, 10:475; 12:320; scarcity of, in 1893, 10:377; species treated of, 1:227-63; 2:46-55, 125-44; 4:88-107, 155-56; 5:227-42, 266-73; 6:117-36; 7:246-96, 310-17; 8:173-77, 197-207, 302; 9:299-309, 465-66; 10:406-20; 11:172-98; 12:235-72.
- Coleopterous larvae, number of described species, 4:180-81.
- coleoptrata, Cermatia, *see* Scutigera forceps.
- Coleothrips trifasciata, 1:303; 11:248, 250.
- Coles, Isaac, insects from, 4:207.
- Coleus, *Leptocoris* *trivittatus* on, 10:438.
- Colias chrysotheme, *see* Eurymus eurytheme.
- edusa, form of *Eurymus eurytheme*.
- nastes, *see* *Eurymus philodice*.
- phicomone, *see* *Eurymus philodice*.
- philodice, *see* *Eurymus*.
- santes, *see* *Eurymus philodice*.
- collaris, *Euchaetes*, *see* *Cyenia tenera*.
- Collembola, 2:209; 11:252.
- Collier, Peter, insects from, 6:186; 9:463; 10:511; 11:205.
- Collingwood, H. W., cited, 11:233.
- Collins, J. D., insects from, 5:325; 11:284.
- colon, *Chiropachys*, 4:105.
- colonus, *Callidium*, *see* *Xylotrechus*.
- Clytus, *see* *Xylotrechus*.
- Xylotrechus* (syn. *Callidium*, *Clytus*, *C. agrestis*, *C. campestris*), 4:93-96, 194; 14:347¹, 357¹.
- Colopha, 3:151.
- compressa, *see* *Colopha ulmicola*.
- ulmicola (syn. *C. compressa*, *Brysocrypta*, *Glyphina*), 3:126-28, 151; 5:303; 7:370; 14:318⁷, 346³, 349², 352¹, 346³, 354¹.
- Colorado agricultural experiment station, *Bulletin* cited, 10:433; 11:182, 242; 13:353⁸; *Report* cited, 12:193.
- coloraria, *Aspilates*, *see* *Catopyrrha*.
- Catopyrrha* (syn. *Aspilates*), 11:254.
- columba, *Tremex*, *see* *Tremex columba*.
- columbia, *Gryllotalpa* (syn. *G. longipennis*), 6:151.
- Samia, 1:86.
- Columbine, insects on;
- Hydroecia rutila* (syn. *Gortyna*), 1:115.
- Phytomyza* species, 4:79; 7:246.
- Colvin, Verplanck, insects from, 9:463.
- Comb horned fish fly, 8:155-59, 300; 10:497.
- comes, *Typhlocyba* (syn. *Erythroneura vitifex*), 8:287.
- comes var. *basilaris*, *Typhlocyba* (syn. *T. affinis*, *Erythroneura affinis*), 9:403, 410.
- comes var. *vitis*, *Typhlocyba* (syn. *Erythroneura*, *Tettigonia* and *Typhlocyba vitis*), 2:30; 4:199; 5:302; 7:345; 8:116, 254, 287; 9:403, 410; 12:363; 14:343⁸, 349³, 353⁸, 373².
- comma, *Grapta*, *see* *Polygonia*.
- Grapta*, form *dryas*, *see* *Polygonia*.
- Polygonia* (syn. *Grapta*, also form *dryas*) 4:137; 8:187; 10:507; 11:284; 13:371⁵; 14:309⁵.
- Comma butterfly, 8:187.
- Commissioner of agriculture, *see* United States department of agriculture.
- Commissioner of patents, agriculture, *Report* cited, 1:116, 227; 2:102, 125; 4:114; 9:317; 10:408. *See also* United States department of agriculture.
- Commissioners of the zoological survey of Massachusetts, *Report* cited, 1:227.
- communis, *Helochara*, 9:396, 410.
- Melanotus*, 1:63, 330; 8:198, 199, 200; 11:267.
- Panorpa*, 10:465, 466, 477.
- Psoroptes* (syn. *P. equi*), 7:362; 14:366¹.
- complanatus, *Julus*, *see* *Polydesmus serratus*.
- Polydesmus*, 3:133, 142, 153; 12:301, 349.
- Compositae, used as insecticides, 2:34.

- Compositae, insects feeding on or frequenting;
Adalia bipunctata, 6:118.
Anthomyiidae, 1:168.
 Beet leaf miners, 1:204.
Ecpanttheria ocellaria (syn. *E. scribonia*), 12:189.
Grapholitha interstinctana, 11:155.
Phymata wolffii (syn. *P. erosa*), 3:107.
Phytomyza chrysanthemi (*P. lateralis* in error), 4: 73, 76, 77; 9:421.
Syrphidae, 1:211.
compressa, *Colopha*, see *C. ulmicola*.
Compsidea tridentata, see *Saperda*.
comptus, *Phytonomus*, 1:248.
 Comrade palmer worm, 1:329.
 Comstock, J. H., cited, 1:152, 216, 239, 254; 2:118, 142; 4:28, 80, 115; 6:147; 10:388; 11:109, 127, 134, 152, 232; 12:235; insects from, 10:515; notes on ant lions by, 11:238; quoted, 11:153, 206; *Introduction to entomology*, cited, 5:242; 8:152, 155, 160; 9:317, 330; 10:478; 11:241, 249; 13:352^s; *Report upon cotton insects* cited, 1:116; 10:405; 12:190.
 Comstock, J. H. and A. B., *Manual for the study of insects*, abstract of review, 11:277; 14:388^r; cited, 10:378, 389, 405, 408, 454; 478; 11:110, 135, 147, 178, 241, 250; 12:193, 218, 230, 235, 238, 268, 273, 344; 13:344^s; referred to, 12:182.
 Comstock, J. H. and Slingerland, M. V., cited, 10:454.
comyntas, *Everes* (syn. *Lycaena*), 4:137.
Lycaena, see *Everes*.
 Conallen, M. J., insects from, 11:288.
concava, *Entilia*, see *Publilia*.
Publilia (syn. *Entilia*), 9:387, 410.
Telamona, 9:390.
concavum, *Platyphyllum*, see *Cyrtophyllum concavum*.
concavus, *Cyrtophyllum* (syn. *Platyphyllum*), 3:135; 5:323; 6:189; 11:284; 12:363; 14:341^r.
Lixus, 1:260; 9:463; 10:511.
conchiformis, *Aspidiotus*, see *Mytilaspis pomorum*.
Lepidosaphes, see *Mytilaspis pomorum*.
concinna, *Notodonta*, see *Schizura*.
Oedemasia, see *Schizura*.
Schizura, see *Schizura concinna*.
concolor, *Pemphredon*, 8:163.
concumbens, *Catocala*, 1:90.
 Cone flower, *Thrips tabaci* on, 11:245.
confertus, *Polycaon*, 1:330; 2:131; 11:268.
conformis, *Chortophila*, 1:209.
Musca, see *Chortophila*.
confusa, *Callimorpha*, see *Haploa*.
Haploa (syn. *Callimorpha*), 7:219.
Morrisonia, 10:482; 11:265.
confusor, *Monohammus*, 2:49-51, 55; 4:23, 207; 5:325; 6:188; 9:463; 10:511, 517; 12:238, 361.
confusum, *Tribolium*, 12:362.
confusus, *Limonius*, 6:188; 7:351, 361; 13:373^s; 14:365^s.
congregatus, *Apanteles*, 2:229; 4:201, 202; 5:177, 307, 324; 7:364; 8:111, 187; 9:461; 10:509, 515; 11:142; 12:354, 359; 14:333^s, 350^r, 351^s, 355^s, 366^s, 394^s.
 var. *atalantae*, *Apanteles* (syn. *Microgaster atalantae*), 2:39.
 var. *pieridis*, *Apanteles* (syn. *Microgaster pieridis*), 3:135.
 var. *rufocoxalis*, *Apanteles* (syn. *A. rufocoxalis*), 9:461.
coniferarum, *Ellema*, 9:449.
Hymenopsyche, see *Thyridopteryx ephemeraeformis*.
Coniodes plumigeraria (syn. *Boarmia*), 10:494; 11:266; 14:380^s.
Coniothecium saccharinum, a fungus, 12:295.
 Connecticut agricultural experiment station, *Bulletin* cited, 12:254; *Report* cited, 11:242, 250; 12:194.
 Connecticut (Storrs) agricultural experiment station, *Bulletin* cited, 12:254.
 Conopid fly, 5:285.
Conorhinus sanguisugus, 4:111; 5:316; 14:339^s.
Conotrachelus crataegi, 2:11; 4:15, 87, 208; 5:316; 6:181; 10:419-20, 511; 12:352; 14:328^s, 339^s, 350^s, 393^s.
nenuphar, bred from black knot, 5:280; damages by, 2:13-14; 3:85; 9:297; detailed account, 7:288-96; oviposition of, 7:295-96; reference, 1:331; 2:6, 11; 4:201; 9:422, 440; 11:122, 270; 12:271; 14:374^s; remedies, 1:57; 6:201; 7:289-95.
conquisitor, *Pimpla*, 1:85, 86; 5:310; 11:134, 138; 14:358^s.
consimilis, *Bombus*, 11:104.
consobrinus, *Culex* (syn. *C. impatiens*, *C. punctator*), 12:321.

- constricta, *Aeschna*, 11:284.
Clisiocampa, 8:296.
 contaminellus, *Crambus*, 1:150, 151.
 contigua, *Chrysobothris*, 11:267.
 contracta, *Datana*, 11:264.
 contrariana, *Penthina*, see *P. nimbatana*.
 contubernallellus, *Chaetochilus*, see *Ypsolophus pometellus*.
Ypsolophus, see *Y. pometellus*.
 convergens, *Hippodamia*, 3:153; 5:249-50, 257; 7:382; 11:282; 14:390^e.
 convexipennis, *Cucullia*, 9:450, 455; 14:311^o, 313^a.
 convolutella, *Dakrura*, see *Zophodia*.
Convolvulus, *Coptocycla bicolor* (syn. *C. aurichalcea*) on, 1:306; 6:125.
 Cook, A. J., cited, 1:184, 194, 228; 2:57, 118; 4:28; 5:234; 7:256, 321; 11:146, 152, 248; 12:192; 13:352^a; on arsenical spraying of blossoms, 11:118; referred to, 11:117; *Manual of the apicary* cited, 14:355^o.
 Cooke, Matthew, cited, 4:115; quoted, 11:222; *Injurious insects of the orchard, vineyard, field, garden, etc.* cited, 11:127, 134, 222, 232, 249; 12:191, 218; *Treatise on the insects injurious to fruit and fruit trees of the state of California* cited, 11:232.
 Cookingham, P. D., insects from, 10:518.
 Coledge, T. J., insects from, 11:286, 288.
 Cooley, J. A., insects from, 4:207.
 Cooley, R. A., cited, 12:254; 13:341¹, 344^o.
 Coombs, M. B., quoted, 13:359^r.
 Coon, H. C., insects from, 4:207; 6:187; 7:383; 10:517, 519.
 Cooper, G. L., insects from, 11:267.
 Cooper, Mrs. J. M., insects from, 8:298.
 copalina, *Orthaltica*, 5:271; 14:363³.
Copidosoma, 1:156.
 truncatellum, 3:140.
 copiosa, *Chloropisca*, 4:70.
 Coprini, 3:102.
 Copris, 7:254.
 anaglypticus, 10:516.
 coprophila, *Sciara*, 10:391, 397; 12:351; 14:308^o, 378^o, 393².
Coptocycla aurichalcea, see *C. bicolor*.
 bicolor (syn. *C. aurichalcea*, *C. punctata*, *Cassida aurichalcea*); attacking sweet potato vines, 1:306; 2:223; 6:125-26; 7:363, 376; reference, 1:306; 6:127; 7:377; 8:298; 14:320^o, 322⁵, 330³, 366⁴, 367⁸; remedies, 1:33, 57.
 clavata, 1:33, 57; 5:322; 6:126, 127; 7:382; 9:454; 13:374²; 14:325^o, 341⁸, 367⁸.
 guttata, see *C. signifera*.
 punctata, see *C. bicolor*.
 signifera (syn. *C. guttata*), 6:127; 7:369; 14:318⁸.
 coquebertii, *Otiocerus*, 1:298; 9:386.
 Coquillet, D. W., cited, 1:116; 5:193, 207, 213; 10:389, 405; 11:177, 232, 242; 12:191, 205, 273; insects from, 7:382; referred to, 12:321.
 Corbett, John, insects from, 4:206.
Cordiceps ravenelii, 8:298.
Cordulegastrina, 4:176.
Cordylopeza nigrinodis, see *Galasa rubidana*.
 Coreidae, 10:432-39.
 Coretha, 12:231.
Coreus linearis, see *Lygus pratensis*.
 Coriander, *Sitodrepa panicea* in, 4:92.
Corimelaena pulicaria, 5:319; 8:212-14, 283; 10:497; 14:340^o, 371⁵, 382^o.
 Corisiae, 11:248.
 Corisidae, 2:31.
 Cork, *Sitodrepa panicea* in, 4:92.
 Corn, insects injurious to;
 Agriotes mancus, 4:207.
 Blissus leucopterus, 1:7, 302; 2:151, 154, 156.
 Calandra oryzae, 7:362, 383.
 Chelymorpha argus, 4:201; 14:350³.
 Crambus species, 4:14, 206.
 zeßellus, 4:14.
 cut worm, 5:312.
 Diabrotica 12-punctata, 7:217; 12:348.
 longicornis, 12:348.
 Epicauta pennsylvanica, 6:136.
 vittata, 6:133.
 Euphoria inda, 1:235; 6:173; 8:295; 10:503; 12:314; 14:317^o, 385^o.
 Gortyna species, 9:447.
 Heliothis armiger, 2:2; 6:185; 7:216, 262; 13:366³; 14:397².
 Hydroecia nitela (syn. *Gortyna*) 1:112; 2:226; 3:149; 5:304, 324; 6:168, 176; 8:112, 191-92; 9:447; 14:332³, 354⁸, 360^o.
 Julus caeruleocinctus, 10:446.
 impressus, 3:132.
 Lathridius ruficollis (syn. *L. pulicarius*), 6:184; 14:330³.
 Leptoglossus oppositus, 3:153.

- Corn, insects injurious to;
Leucania unipuncta, 12:197, 198, 206, 309, species, 9:457.
Lygus pratensis, 13:352^s.
Macroductylus subspinosus, 1:229; 4:15, 199.
Megilla maculata, 2:233; 4:80; 14:336^e.
Melanoplus spretus (syn. *Caloptenus*), 1:7.
Mesographa polita, 7:233.
Monomorium pharaonis (syn. *M. molestum*), 10:366.
Murgantia histrionica, 1:265.
Nephelodes minians var. *violans*, 1:104.
Noctua clandestina (syn. *Agrotis*), 8:235.
Peridroma saucia (syn. *Agrotis*), 5:205.
Phorbia fusciceps (syn. *Anthomyia zeae*), 1:199.
Sibine stimulea (syn. *Empretia*), 6:187.
Sitotroga cerealella, 2:106; 10:380.
Sphenophorus sculptilis (syn. *S. venatus*, *S. zeae*), 1:254, 260, 305, 318; 2:16, 52, 231; 6:178; 7:376.
Systema taeniata (syn. *S. blanda*), 4:155, 198; 9:344.
Thrips cerealium, 11:249.
 wire worms, 12:347, 361.
Xylophasia arctica (syn. *Mamestra*), 9:447; 14:311¹.
devastatrix (syn. *Hadena*), 8:235.
Zabrus gibbus, 3:99.
 Corn bug, 1:233, 260, 310.
Corn curculio, 1:253-63; 6:178; 14:322^s, 326^e, 336^e.
 Corn cut worm, 5:312; 14:337^e, 366^e.
 Corn grubs, 9:353, 356.
 Corn insects, 4:80, 82.
 Corn maggot, black headed, 10:388.
 Corn root worm, northern, 12:348; 14:391^e; southern, 12:348; 14:391^s.
 Corn saw fly, 3:88; 7:334.
 Corn worm, 1:8, 116-26; 6:168, 185; 7:216, 363; 14:330^s, 360^e.
 Cornell university agricultural experiment station, *Bulletin* cited, 9:318; 10:454; 11:205, 249; 12:194, 254; 13:335^e, 353^e; Department of entomology, *Report* cited, 4:115; 6:147; 10:454; 11:160.
cornicola Haematobia, see *H. serrata*.
Stomoxys, see *Haematobia serrata*.
cornifoliae, *Aphis*, 9:405, 412.
cornifoliella Antispila, 11:157, 159.
 Corning, Erastus, jr, insects from, 4:206, 208; 6:187; 7:381; 8:300.
Cornus, see *Dogwood*.
cornuta, *Corydalis*, 4:208; 5:326; 7:254; 8:107, 156, 158, 159-62, 300; 10:490, 497, 501, 512; 11:288; 14:379¹, 382¹, 385².
Hemerobius, see *Corydalis*.
Raphidia, see *Corydalis*.
 Cornwell, R. C. de V., insects from, 13:371^s.
Correspondenz Blatt cited, 2:116.
corrusca, *Ellychnia*, 9:463.
 Corsair, black, 4:109, 111; 14:357^e.
 two spotted, 4:112.
corticalis, *Chermes*, of Europe, 2:184.
Tenebrioides, 11:267.
Corycia vestaliata, see *Orthofidonia*.
Corydalis cornuta, 4:208; 5:326; 7:254; 8:107, 156, 158, 159-62, 300; 10:490, 497, 501, 512; 11:288; 14:379¹, 382¹, 385².
coryli, *Telamona* (syn. *T. tristis*), 9:391, 410.
Corylus americana, see *Hazel*.
Corymbites caricinus, 11:267.
Corythuca arcuata (syn. *Tingis*), 1:311; 4:108; 11:270.
ciliata, 4:107-19, 208; 14:357^e.
juglandis, 4:108.
polygrapha, 4:109.
 species, 11:270.
Coscinoptera dominicana, 11:269.
Cosmopepla carnifex (syn. *Cimex*), 2:144-47; 9:458; 14:314^s, 342^s.
Cossidae, 2:216; 5:311; 14:336^e.
Cossus centerensis, 2:216; 3:140; 7:373; 8:294; 14:307¹, 317^s, 320^s.
crepera, see *Prionoxystus robiniae*.
ligniperda, erroneous reference of *Thyridopteryx ephemeraeformis*.
plagiatus, see *Prionoxystus robiniae*.
querciperda, see *Prionoxystus macmurtrei*.
reticulatus, see *Prionoxystus robiniae*.
robiniae, see *Prionoxystus*.
undosus, 7:375; 14:307^s, 322¹.
costalis, *Asopia*, see *Pyralis*.
Hypsopygea, see *Pyralis*.
Phalaena, see *Pyralis*.
Pyralis, see *Pyralis costalis*.
Cotalpa lanigera, 6:183; 11:268; 14:329^e.
Cotoneaster, *Aspidiotus perniciosus* on, 11:224.

Cotton, insects injurious to;

Aletia argillacea, 1:7, 35.

Chauliognathus marginatus, 4:84.

Dysdercus suturellus, 2:166; 6:183.

Ecpantheria ocularia (syn E. scribonia), 12:183.

Euphoria inda, 1:235.

Heliothis armiger, 1:117.

Largus succinctus, 2:166.

Systema frontalis, 9:344.

taeniata (syn. S. blanda), 4:155, 198, 207; 9:344; 14:348^o.

Thrips, 11:248, 250.

Cotton stainer, 2:166; 6:183.

Cotton worm, Carolina Mantis preying on, 4:158, 161; estimated loss by, 1:7-8; 12:341-42; parasites of, 1:85, 86; Pennsylvania soldier beetle preying on, 9:345; reference, 1:40, 58, 117, 226; 10:467; 11:138; reference to work of U. S. ent. comm. on, 4:177, 192; remedies, 1:37, 38; 3:37; sensitiveness to paris green, 1:35.

Cotton worm moth (Aletia argillacea), 1:58, 117, 328; 2:220; 4:206; 11:266.

Cottonwood, insects injurious to;

Cicada septendecim, 2:176.

Melasoma scripta (syn. Lina), 10:500; 11:183.

Oberea bimaculata, 5:233.

Pemphigus populi-transversus, 13:361².

Trichiocampus viminalis (syn. Aulacomerus lutescens), 4:44.

Wollastonia quercicola, 2:53.

Cottonwood leaf beetle, 10:517; 11:103, 181-89; 12:357; 14:384^o, 395¹.

Cottony cushion scale, 4:187; 5:326; 6:104; 7:340; 11:271.

Couch, Charles, insects from, 7:382.

Council of Philadelphia, *Report on insects injurious to vegetation* (Leidy) cited, 6:147.

Country gentleman, numerous abstracts occur near the end of each report and frequent citations may be found under most insects treated.

Courier and freeman cited, 1:127.

Cow bird feeding on army worm, 12:209.

Cow horn fly (Haematobia serrata), see Horn fly.

Cow pea Bruchus, 7:270.

Cowdry, N. H., cited 12:237.

Cox, Samuel, insects from, 9:462.

coxendix, Oscinis, 1:225.

Coy, C. H., insects from, 9:464.

Crab apple, Siberian, Odontota dorsalis feeding on, 12:266.

Crabonidae, 5:284.

Crambidae, 1:150; 6:181; 12:204.

Crambodes talidiformis, 10:482.

Crambus, 1:99, 100, 127, 139, 146, 147, 148, 150; 4:206.

dried, 1:149-51; 14:335^o.vagabond, 1:53, 110, 127-49, 151; 2:2, 114; 6:182; 14:335^o.

Crambus alpinellus, 1:150.

chalybirostris, see C. vulgivagellus.

contaminellus, 1:150, 151.

craterellus, 1:150.

culmellus, 1:141, 150, 151.

dumetellus, 1:150.

ericellus, 1:150.

exsiccat, see C. trisectus.

fascellus, 1:151.

furcatellus, 1:150.

fuscisquamellus, 1:151.

geniculus, 1:151.

hamellus, 1:150.

inquinatellus, 1:150.

latistrius, 1:150.

lithargyrellus, 1:150.

margaritellus, 1:150.

myellus, 1:150.

pascuellus, 1:150.

perlellus, 1:150.

silvellus, 1:150.

trisectus (syn. C. exsiccat), 1:136, 138, 149-51; 14:328³, 335^o.

uliginosellus, 1:150.

undatus, 1:151.

verellus, 1:150.

vulgivagellus (syn. C. chalybirostris): abundance of, 1:133-34, 136, 140; alarm excited by attack, 1:133-34; associated with Nephelodes, 1:99; delayed pupation, 1:137-38; description of stages, 1:134, 138, 141; detailed account, 1:127-49; life history, 1:136-39, 144; natural enemies, 1:144-47; ravages, 1:127-32, 135, 143; 2:2; reference, 1:100, 109, 151; 2:114; 6:182, 183; 14:327^o, 327³, 329², 329³, 329⁴, 335^o; remedies, 1:53, 148-49.

warringtonellus, 1:150, 151.

zeëllus, 4:14.

Cramer, Pieter, *Papillons exotiques des tres parties du monde* cited, 5:174; 11:126.

Cranberry, insects injurious to;

Clastoptera obtusa, 5:245

Leucania unipuncta, 12:123, 198, 206.

- Crane, Mrs H. D., insects from, 3: 142; 7:384.
- Crangonyx gracilis, 9:348.
mucronatus, 8:279, 300; 9:347-49; 10:498, 519; 14:369^a, 383^s.
- Crannell, E. S., insects from, 12:361.
- Crannell, Monroe, insects from, 4: 205.
- Craponius inaequalis, 2:33; 8:286, 299; 9:364, 365; 10:498; 14:372^s, 383^t.
- crassifemoris, Oscinis, 1:225.
- crassipes, Gamasus, 11:259.
- Cratacanthus dubius, 12:209.
- crataegella, Lithocolletis, *see* L. pomifoliella.
- crataegi, Anthonomus, *see* Pseud-anthonomus.
Cecidomyia, of Europe, 7:308, 364; 14:367^t.
Conotrachelus, 2:11; 4:15, 87, 208; 5:316; 6:181; 10:419-20, 511; 12:352; 14:328^s, 339^s, 350^a, 393^s.
Lochmaea (syn. Galeruca sanguinea), 11:197.
Pseudanthonomus (syn. Anthonomus), 1:331; 11:270.
Thelia 1:284, 9:392, 11:270.
var. pretiosa, Catocala (syn. C. pretiosa), 7:375; 8:292; 14: 307^a, 316^t, 321^t.
- crataegifoliae, Aphis, 9:406, 412.
- crataegifoliella, Ornix, 11:267.
- Crataegus, *see* Hawthorn.
oxyacantha, gall on, 7:308.
tomentosa, *see* Thorn, black.
- craterellus, Crambus, 1:150.
- Cratotechus orgyiae (syn. Trichogramma), 1:303; 2:79.
- Craw, A., cited, 12:293.
- Crawfish, blind, 9:348.
- Crawford F. S., cited, 10:403; *Report on Fusicladiums, etc., in Australia* cited, 10:453.
- Cremastogaster cerasi, *see* C. lineolata var. cerasi.
lineolata, var. cerasi 10:365-66, 491; 14:379^t.
- crenulata, Lachnosterna, 1:330; 11: 268.
Orthodes (syn. O. infirma), 1:340.
- crepera, Cossus, *see* Prionoxystus robiniae.
- Crepidodera cucumeris, *see* Epitrix erythropus, *see* C. rufipes.
helxines, 4:102, 196; 11:269.
rufipes (syn. Altica, C. erythropus), 4:101-3, 196; 11:269; 14: 348^s, 357^s.
- Crepis, Plusia brassicae on, 2:91.
crepuscularia, Boarmia, *see* Cleora.
Cleora (syn. Boarmia), 11:266.
- creosphontes, Heraclides (syn. Papilio), 9:336-37, 461; 10:498, 515; 14:383^t.
Papilio, *see* Heraclides.
- Cresson, E. T., cited, 4:35; referred to, 12:308; studies of bees, 11:103, 104; *Synopsis of the families and genera of the Hymenoptera of North America* cited, 4:35, 42; 5:164, 173; 11:109; 13:335^a, 338^a, 340^a.
- cressoni, Urocerus, *see* U. cressoni.
- Cressonia juglandis (syn. Smerinthus), 10:508; 14:309^a.
- cretata, Saperda, 1:331; 11:269.
- Crickets, 1:40, 79; 2:1, 36; 4:126, 165, 190.
common black, 8:179; 10:497; 14:282^s.
mole, 2:233; 6:149-51; 10:519; 12:363; 14:335^t, 368^s.
snowy, 1:315.
- Crioceridae, 1:243, 244.
- Crioceris asparagi, *see* Asparagus beetle.
calmariensis, *see* Galerucella luteola.
trilineata, *see* Lema.
12-punctata, *see* Asparagus beetle, 12-spotted.
- crispata, Lagoa, *see* Megalopyge.
Megalopyge (syn. Lagoa), 4:52, 53, 54; 5:186, 188; 9:452; 11: 264; 14:312^s.
- Crispell, C. W., insects from, 5:324, 326.
- cristatus, Cimex, *see* Prionidus.
Prionidus (syn. Cimex, Prionotus), 2:230; 4:13; 5:316; 6:138-41; 8:294; 14:317^t, 333^a, 339^t, 368^s.
Prionotus, *see* Prionidus.
- crocallata, Tetracis, 10:483.
- crocataria, Angerona, *see* Xanthotype.
Xanthotype (syn. Angerona), 4: 206; 10:483.
- Crocus, Anthrenus scrophulariae on, 5:267.
- Crophius disconotus, 11:270.
- Cross, T. E., insects from, 6:186.
- Crotch, G. R., cited, 4:80, 101, 155; *Check list of the Coleoptera of America north of Mexico* cited, 1: 228, 233, 239; 2:132; 4:80; 7:255; 11:181.
- Croton bug, 1:62, 65, 79, 343; 4:121, 132, 139; 5:295; 7:326.
- Croton bug killer, 7:326.
- Crow, A. E., on Cicada, 12:284.

- Crow, M. L., on Cicada pupae, 12:284.
 Crow feeding on Cicada pupae, 12:288.
 Crowe, David, insects from, 6:189; 7:383.
 cruciarius, Ixodes, 6:158.
 cruciferarum, Plutella, 1:322.
 Crustaceans, 4:202; 9:347-49, 466; 10:519; 11:288; 14:351⁸.
 crypticus, Glyptoscelis, 1:331; 11:269.
 Cryptocampus angustus, 13:336⁶.
 saliceti, 13:336⁶.
 Cryptohypnus abbreviatus, 8:200.
 Cryptolechia schlaegeri, *see* Stenoma.
 Crypturgus atomus, *see* C. pusillus.
 mali, *see* Monarthrum.
 pusillus (syn. C. atomus), 4:20, 24.
 Cryptus inquisitor, *see* Pimpla.
 mundus, 1:147.
 smithii (syn. Hemiteles), 1:86.
 Ctenucha latreillana, *see* C. virginica.
 virginica (syn. C. latreillana), 1:317; 9:456; 14:313⁶.
 Cuckoo, feeding on Cicada, 12:289.
 black billed (Coccygus erythrophthalmus), 2:82.
 yellow billed (Coccygus americanus), 2:82.
 Cucujidae, 3:100; 11:267.
 cucullata, Tettix, 2:197.
 Cucullia asteroides, 9:455; 10:482; 14:313⁴.
 convexipennis, 9:450, 455; 14:311⁹, 313⁴.
 florea, 9:456; 14:316⁶.
 intermedia, 7:375; 9:450; 14:311⁹, 321⁹.
 laetifica, 7:375; 8:292; 14:307⁷, 315⁷, 321⁶.
 lucifuga, 9:450.
 serraticornis, 9:456; 14:307⁸, 318⁸.
 speyeri, 9:456; 14:307⁷, 313⁸.
 Cucumber, insects, etc., injurious to;
 Anasa tristis, 2:29.
 Aphis gossypii (syn. A. cucumeris), 8:211.
 Corimelaena pulicaria, 8:213.
 cut worms, 5:157.
 Daetylopius citri (syn. D. destructor), 3:138.
 Diabrotica 12-punctata, 12:348.
 vittata, 2:28, 29; 4:103; 5:159; 7:367; 9:361, 362; 10:413.
 Epitrix cucumeris, 1:65; 2:29.
 Julus species, 1:307.
 Cucumber, insects, etc., injurious to;
 Leucania unipuncta, 12:206.
 Margaronia hyalinata (syn. Eudiotis, Phakellura), 5:320; 11:136.
 nitidalis (syn. Eudiotis, Phakellura), 5:320; 11:130, 131, 132.
 Melittia satyriniformis (syn. M. cucurbitae), 5:320.
 Poecilocapsus lineatus, 1:277.
 Polydesmus complanatus, 3:133.
 serratus, 12:301.
 Smynthurus hortensis, 2:207.
 Thrips tabaci, 11:244.
 Cucumber beetle, striped, eating into pear buds, 4:103; reference, 1:33, 244, 296, 316, 322, 331; 5:235; 7:337, 367; 8:250; 9:419; 10:498; 11:269; 12:352; 14:360⁶, 362⁴, 369¹, 383⁷, 393⁴; remedies, 2:28, 29; 6:169; 7:367-68; 9:361-64; 10:413-14.
 Cucumber flea beetle, 1:33, 244; 4:156; 5:271; 10:489; 11:269; 13:373⁹; 14:378⁸.
 Cucumber moth, 5:320.
 Cucumber plant louse, 11:168.
 cucumeris, Aphis, *see* A. gossypii.
 Cecidomyia, *see* Diplosis.
 Crepidodera, *see* Epitrix.
 Diplosis (syn. Cecidomyia), 5:306; 8:212; 11:165, 168; 12:357; 14:308⁸, 355⁶, 395⁵.
 Epitrix (syn. Crepidodera), 1:33, 65, 195, 244; 2:29; 4:156; 5:271; 10:489; 11:269; 13:373⁹; 14:378⁹.
 cucurbitae, Aegeria, *see* Melittia satyriniformis.
 Melittia, *see* M. satyriniformis.
 cucurbitaphidis, Lysiphlebus, 11:167.
 Cucuyo, 11:174-77; 12:357, 362; 14:395⁷.
 Culex, 1:191; 12:320, 321, 325, 326, 327.
 ciliatus, *see* Psorophora.
 consobrinus (syn. C. impatiens, C. punctor), 12:321.
 damnosus, *see* C. taeniorhynchus.
 excitans, 12:321.
 exerucians, 12:321.
 fasciatus (syn. C. mosquito), 12:331.
 hyemalis, *see* Anopheles punctipennis.
 impatiens, *see* C. consobrinus.
 impiger (syn. C. implacabilis), 12:321.
 implacabilis, *see* C. impiger.

- Culex* mosquito, *see* *C. fasciatus*.
 perturbans, 12:321.
 pipiens, 12:321, 327.
 provocans, 12:321.
 punctator, *see* *C. consobrinus*.
 pungens, 12:321.
 rufus, 12:327.
 stimulans, 12:321.
 taeniorhynchus (syn. *C. damnosus*), 12:321.
- Culicidae, 2:112; 7:315; 12:320, 321, 332.
- culmellus, *Crambus*, 1:141, 150, 151.
 culta, *Plusia*, 2:97; 14:307^s.
Cultivator cited, 1: 227, 253; 2:102.
Cultivator and country gentleman *see* *Country gentleman*.
- cunea, *Hyphantria*, 1:57, 306, 328; 2:83; 3:93; 9:295, 422; 11:264.
- cuniculi, *Cuterebra*, 7:367, 382; 14:368^s.
- Cunningham, H. D., insects from, 11:287.
- cupida, *Agrotis*, *see* *Rhynchagrotis anchocelioides*.
- Curculio, apple, *see* Apple tree curculio.
 plum, *see* Plum curculio.
- Curculio nenuphar, *see* *Conotrachelus*.
 noveboracensis, *see* *Ithycerus*.
 ovatus, *see* *Otiorhynchus*.
 pimpinellae, 1:248.
 pisorum, *see* *Bruchus*.
 proboscideus, *see* *Balaninus*.
 punctatus, *see* *Phytonomus*.
- Curculionid, infesting elm, 12:246.
- Curculionidae, habits of, 1:45; 2:15, 53; 9:297, 345; number of larvae described, 4:182; reference, 3:106, 139; 6:118; 11:270; sense organs in, 1:69; species treated of, 1:247-63; 9:344-45; 10:419-20; 12:267-72.
- curculionis, *Sigalphus*, 1:308.
- Curran, insects injurious to;
 Aspidiotus ancyclus, 11:275, 287; 14:388^s.
 nerii, 5:279, 317; 8:215; 11:204.
 perniciosus, 11:207, 224; 13:374^s.
 Cosmopepla carnifex, 2:146.
 currant worm, 2:24.
 Diastictis ribearia (syn. *Eufitchia*), 12:311; 13:372^s.
 Hydroecia nitela (syn. *Gortyna*), 1:112; 8:191.
 Janus integer (syn. *Phyllocus flaviventris*), 8:166; 9:461; 11:284; 12:308; 13:335^s.
 Mamestra picta, 4:16; 5:209.
 Mytilaspis pomorum, 11:202.
- Curran, insects injurious to;
 Myzus cerasi, 5:256; 9:346.
 ribis, 6:167; 9:370; 11:275; 13:363^s.
 Poecilocapsus lineatus, 1:271, 277; 4:200.
 Psenocerus supernotatus, 1:321.
 Pteronius ribesii (syn. *Nematus ventricosus*), 2:24, 220; 3:85, 144; 7:335, 361; 8:125.
 Pulvinaria innumerabilis, 6:143.
 Sesia tipuliformis (syn. *Aegeria*), 2:60.
 Tenthredo rufopectus, 12:308, 359.
- black, insects injurious to;
 Lycia cognataria (syn. *Amphidasys*), 2:98.
 Myzus cerasi, 5:256.
 ribis (syn. *Aphis*), 3:145.
 Poecilocapsus lineatus, 1:271, 277; 5:274.
- flowering, *Aspidiotus perniciosus* on, 11:224.
 Missouri, *Lycia cognataria* (syn. *Amphidasys*) on, 2:101.
- Curran Amphidasys, 2:97-101, 227; 14:342^s.
- Curran aphis, 1:272; 9:370, 371, 376, 10:498; 11:275-76; 13:363^s; 14:360^s, 383^s, 388^s.
- Curran borer (*Aegeria*), 1:8, 57.
 Curran borer (*Psenocerus*), 1:321.
 Curran moth, 1:299.
 Curran saw fly, 2:217-21; 3:44, 88; 4:197; 14:333^s, 343^s, 382^s.
- Curran span worm, 12:360.
- Curran stem borer, 2:60; 13:335^s.
- Curran stem girdler, 4:17, 47, 189; 6:190^s; 7:352; 8:166-68, 264; 10:497; 11:284; 12:308; 13:337^s.
- Curran worm, egg parasite of, 2:217-21; 229; 4:194, 197; embryology of (reference), 4:167; killed by heavy rains, 8:125; *Podisus cynicus* preying on, 7:361; ravages, 3:85; reference, 1:8, 43, 226; 5:300; 7:335; 12:311; 14:347^s, 348^s, 353^s, 362^s, 365^s; remedies, 1:41, 42, 46, 56, 59, 60; 2:24; 5:156-57.
- Currants, dried, *Silvanus surinamensis* infesting, 12:361.
- curtipennis, *Stenobothrus*, 2:197.
- Curtis, H. S., insects from, 10:518.
- Curtis, John, cited, 1:172; 4:114; 7:324; 11:248; referred to, 12:302; *British entomology (Diptera)* cited, 4:73; *Farm insects* cited, 1:172, 184, 191, 237, 239; 5:246; 7:279; 9:307; 10:388; 11:248.
- curtisii, *Amblycephalus*, *see* *Athysanus*.

- curtisii*, *Athysanus* (syn. *Amblycephalus*), 9:401, 410.
curvata, *Campylenchia* (syn. *Enchophyllum latipes*), 9:387, 410.
curvidens, *Tomicus*, of Europe, 2:54.
curvilineatella, *Lithocolletis*, see *Bucculatrix pomifoliella*.
 Cut worm, ants attacking, 1:321; attacking cabbage, 1:312; attacking corn, 7:363; 9:447; attacking onions, 4:13; 8:126; detailed account of, 5:308, 318 (abstracts); 8:231-42; general notice (abstract), 1:303; 6:175; habits of violet *Nephelodes*, 1:104; imported species, list of, 1:8; in midwinter, 4:56; life history of variegated cut worm, 5:200-6; reference, 1:110, 254; 256, 316, 322; 4:14, 178; 6:171; 12:205, 314; 13:366³; 14:311¹, 334², 340², 340⁷, 342¹, 343³, 349⁷, 356⁷, 361¹, 388⁶, 394², 397²; remedies for, 1:58, 63, 64; 2:28, 35; 5:206, 319; 8:238-42; 12:353; 14:337⁷; secrecy of work, 8:264; species, number of, 1:22.
 black, 8:187-91; 14:371⁵.
 black lined, 8:235, 236.
 bronze colored, 1:99-110, 136; 4:54; 8:173, 235; 14:357⁶.
 checkered, 11:265.
 climbing, 1:58, 328; 5:210; 11:121, 265.
 Cochran's 1:328; 11:265.
 dark sided, 1:58, 328; 8:188; 11:265.
 greasy, 1:58.
 red, 11:265.
 speckled, 11:265.
 variegated, 1:328; 5:200-6; 11:265; 14:362⁷.
 w-marked, 1:328; 8:199; 11:265.
Cuterebra buccata, 2:46.
 cuniculi, 7:367, 382; 14:368⁹.
 emasculator, 2:45; 4:174; 7:367; 13:372⁸; 14:368⁹.
 Cuvier, G. L., *Régne animal* cited, 2:102.
cyaneus, *Urocerus*, 13:342², 342³.
cyanipes, *Melanoplus*, 11:272.
Cyaniris pseudargiolus (syn. *Lycaena*), 5:285; 7:375; 8:291; 14:315⁴, 321³, 321⁴, 321⁵.
 pseudargiolus var. *lucia* (syn. *Lycaena lucia*), 7:375; 8:291; 14:315⁴.
 var. *neglecta* (syn. *Lycaena neglecta*), 7:374; 8:291; 14:315⁴, 321³.
Cyanocitta cristata, see Jay, blue.
cybele, *Argynnis*, 4:136; 5:285.
 Cyclone burner for army worm, 12:193.
Cynia tenera (syn. *Euchaetes collaris*), 9:455; 14:313⁵.
Cydnidae, 1:264-71; 2:144.
Cydonia japonica, see Quince, Japanese.
cydoniae, *Tingis*, 1:311.
Cylas formicarius, 3:141, 154; 14:347².
cylindricum, *Orthosoma*, see *O. brunneum*.
Cyllene capraea, see *Neoclytus*.
 pictus (syn. *Clytus*), 1:297; 2:223; 8:110, 175, 176; 10:497; 13:360¹, 373⁶; 14:331², 382⁷, 400².
 robiniae (syn. *Clytus*), 1:317; 2:224; 7:363; 8:175, 176; 10:504, 517; 13:360⁶; 14:366⁶, 386⁴.
cymatophoroides, *Pseudothyatira* (syn. *P. expultrix*), 10:481.
cynicus, *Podisus* (syn. *Arma grandis*), 1:331; 7:356, 361; 14:365⁸.
Cynipidae, 1:314; 4:42, 43, 172; 5:308.
Cynips glandulosus, 4:44.
 operator, see *Andricus*.
 prunus, see *Amphibolips*.
Cynthia cardui, see *Vanessa*.
Cyperus, *Aspidiotus nerii* on, 11:287.
 Cypress, *Icerya purchasi* on, 4:187.
Cyrtolobus (syn. *Cyrtosia*), 1:300; 9:389, 410.
 fenestratus (syn. *Cyrtosia*), 9:389, 410.
 inornatus, see *Atymna*.
 vau. (syn. *Smilia*), 9:388, 410.
Cyrtophyllus concavus (syn. *Platyphyllum*), 3:135; 5:323; 6:189; 11:284; 12:363; 14:341⁹.
Cyrtosia, see *Cyrtolobus*.
 fenestrata, see *Cyrtolobus fenestratus*.
 marmorata, see *Carynota*.
Cytisus, *Mecyna reversalis* on, 11:142.
 Daboll C. E., insects from, 4:207.
Dactylis glomerata, see Orchard grass.
Dactylopius adonidum (syn. *D. longifilis*), 2:56.
 citri (syn. *D. destructor*), 3:138.
 destructor, see *D. citri*.
 longifilis, see *D. adonidum*.
 Dahlia, insects injurious to;
 Diabrotica 12-punctata, 1:315, 382.
 Epilachna borealis, 7:382.

- Dahlia, insects injurious to;
Hydroecia nitela (syn. *Gortyna*), 1:112; 8:491; 10:509.
Poecillocapsus lineatus, 1:277.
Daily democrat [Amsterdam], 14:338⁴.
Daimio, *see* *Catodaulis*.
tethys, *see* *Catodaulis*.
Dairy pest, 8:286.
Daisy, insects injurious to;
Macroductylus subspinosus, 1:230.
Phytomyza chrysanthemi (P. *lateralis* in error), 4:73, 207.
Trichodes nuttalli, 3:138.
ox-eye, used as insecticide, 2:34.
Dakrura convolutella, *see* *Zophodia*.
Dall, C. H., cited 7:324, 9:309.
dama, Lucanus, 1:330; 4:180, 207; 11:268, 284; 12:362.
damnosus, *Culex*, *see* *C. taeniorhynchus*.
Dana natural history society, 14:305⁶; paper read before, 12:319-35.
Danais, 2:214.
archippus, *see* *Anosia plexippus*.
Dance, Abel, insects from, 13:374⁹.
Dandelion, insects injurious to;
Plusia brassicae, 2:91.
Sitodrepa panicea, 4:92.
Danforth, Mrs J. H., insects from, 13:372⁸.
Daniell, W. F., insects from, 4:207.
Dansby, J. V., cited, 12:192.
Darapsa myron, *see* *Ampelophaga*.
Daremma undulosa, *see* *Ceratonia*.
Darwin, Charles, *Origin of species* referred to, 12:349.
Darwin, F., cited, 11:248.
Datana, 10:466.
angusii, 4:178.
contracta, 11:264.
integerrima, 1:328; 11:264; 12:309; 14:399³.
major, 8:296.
ministra, *Anomalon* parasitic on, 8:108, 164; attacking apple, 1:328; 5:307; reference, 1:320; 2:83; 5:169, 324; 7:381; 11:264, 285; 14:356²; remedies, 1:57.
perspicua, 7:381.
Datura stramonium, *see* *Jamestown weed*.
dauci, *Aphis*, of Europe, 3:123, 151.
Phora, 10:405.
Daucus, *see* *Carrot*.
Davenport academy of natural sciences, *Proceedings* cited, 6:147.
Davenport daily gazette cited, 6:147.
Davies, S. M., insects from, 13:371⁶, 375⁶.
Davis, G. C., cited, 10:478; 11:147, 197; 13:353⁶; quoted, 11:171; referred to, 12:294.
Davis, G. C. and Taft, L. R., cited, 11:233.
Davis, W. T., cited, 7:296; 12:273.
De Angelis, W. W., insects from, 8:298.
Dearness, J., cited, 12:194.
Death watch, 1:162, 316; 2:202; 5:323; 14:341⁸.
decemlineata, *Doryphora*, 1:145, 244, 322; 2:3; 5:289; 6:132; 8:298; 9:297, 422; 12:237; 14:387⁵.
Polyphylla, 11:268.
decemmaculata, *Coccinella*, *see* *Megilla maculata*.
decemnotata, *Xanthonia*, 11:269.
deceptiva, *Hylemyia*, *see* *Phorbia fusciceps*.
decipiens, *Xylocleptes*, 11:270.
decoloratus, *Asaphes*, 8:200.
decumanus, *Melanotus* (syn. *M. incertus*), 1:330; 11:267.
definita, *Notolophus* (syn. *Orgyia*), 4:50; 8:289, 296; 14:373⁸.
Orgyia, *see* *Notolophus*.
defoliaria, *Hybernia*, 11:266.
De Freest, Lewyllen, insects from, 12:363.
De Geer, Carl, *Memoires pour servir a l'histoire des insectes* cited, 2:164, 187; 4:80.
Degeeria nivalis (syn. *Podura*), 2:244.
degeerii, *Otiocerus*, 9:386.
dehaisiana, *Carpocapsa*, *see* *C. saltitans*.
Deilephila chamaenerii, 5:175; 10:508; 12:359; 14:309⁸.
lineata, 1:119, 327; 5:175; 9:451; 10:508, 519; 11:264; 14:309⁸.
De Jean, P. F. M. A., *Catalogue des Coléoptères de la collection de M. le Comte Dejean* cited, 2:136; 7:285.
Delaware agricultural experiment station, *Bulletin* cited, 10:278; 11:233; *Report* cited, 12:254.
delicatulus, *Hemerobius*, *see* *Psectra diptera*.
Deloyala, 6:126.
clavata, *see* *Coptocycla*.
Delphax arvensis, *see* *Liburnia*.
dorsalis, *see* *Stenocranus*.
Deltoccephalus inimicus (syn. *Amblycephalus*), 9:401-2, 410.
melsheimerii (syn. *Amblycephalus*), 9:401, 410.

- Deltocephalus sayii* (syn. *Amblycephalus*), 9:401, 410.
Deltoidea, 1:140; 8:292.
Dendroctonus frontalis, 10:500; 14:384.
 rufipennis (syn. *Hylurgus*), 2:54.
Dendroica aestiva, summer warbler, 2:8.
Dendroleon obsoletum (syn. *Myrmoleon ocellatus*), 7:319; 9:440; 11:237, 238, 240; 14:374.
 pantherinus, 11:239.
dentatus, *Lachnus*, see *L. viminalis*.
deperdita, *Sciara* (fossil form), 10:388.
depressa, *Phylloxera*, 6:189.
Depressaria heracliana, 9:454; 14:312.
 lecontella, 7:375; 14:321.
 ontariella, see *D. heracliana*.
Derby, H. B., insects from, 5:324.
deridens, *Charadra* (syn. *Diphtera*), 9:456; 14:313.
 Diphtera, see *Charadra*.
Dermacentor americanus (syn. *Ixodes*), 6:158.
Dermanyssus avium, 1:62; 3:129; 5:290.
Dermaptera, 1:79; 4:167.
Dermestes, 1:74; 11:171.
 caninus (syn. *D. murinus*), 9:462.
 lardarius, abundance, 6:122; detailed account, 6:119-23; feeding on wax, 5:302-3; 6:120, 122, 123; food, 6:120-21; introduction, 6:120; museum pest, 2:138; reference, 6:188; 7:369; 8:179, 279; 14:318, 338, 353, 367, 369; remedies, 5:313; 6:121.
 megatoma, see *Attagenus piceus*.
 murinus, see *D. caninus*.
 paniceus, see *Sitodrepa panicea*.
 piceus, see *Attagenus*.
 scrophulariae, see *Anthrenus*.
 vulpinus, 4:88-89, 197, 198; 6:120; 14:348.
Dermestidae, 2:46, 138; 6:175; 9:290, 303; 11:172-74.
Derostenus primus, 10:369; 12:267.
 species, 10:369, 510; 12:351, 265; 14:392.
deshaisiana, *Carpocapsa*, see *C. saltitans*.
Desmia funeralis (syn. *D. maculalis*), 1:86; 10:483.
 maculalis, see *D. funeralis*.
Desmocerus palliatus, 1:297; 5:325; 6:188; 9:462.
destructor, *Cecidomyia*, 1:58, 321; 4:27, 29; 5:263, 325; 7:368; 11:165; 14:317, 325, 349, 363.
 Dactylopius, see *D. citri*.
 Nysius, see *N. angustatus*.
 Semiotellus, 1:321.
Deutsche Entomologische Zeitschrift cited, 2:136; 7:280, 285.
Deutzia gracilis, insects on;
 Alypia octomaculata, 5:182.
 Poecilopsus lineatus, 1:277.
Deva purpurigera (syn. *Plusia*), 10:376.
devastator, *Agrotis*, see *Xylophasia devastatrix*.
 Melanoplus, 11:272.
 Rhyparochromus, see *Blissus leucopterus*.
devastatrix, *Hadena*, see *Xylophasia*.
 Tylenchus, 8:221.
 Xylophasia (syn. *Agrotis devastator*, *Hadena*), 1:58, 303; 8:235; 10:482.
Devereaux, W. L., insects from, 5:326.
Devil's horse (*Prionidus*), 4:113; 6:140.
Devil's riding horse (*Mantis*), 4:160.
Devrie, W. B., on Cicada, 12:284.
Dewberry mined by *Tischeria mali-foliella*, 11:162.
Dewey, Melvil, insects from, 12:360, 361.
De Witt, D. W., insects from, 3:141, 8:298.
diabolica, *Vespa*, 1:139; 7:229; 9:461.
Diabrotica duodecimpunctata, 7:217, 315, 382; 9:440; 11:269; 12:348; 13:373; 14:374, 391.
 longicornis, 4:82; 11:269; 12:348; 14:391.
 vittata, attacking apple trees, 1:331; 11:269; pear buds, 4:103; protection from by black walnut, 10:413-14; reference, 1:244; 2:231-32; 4:143; 5:235, 312; 8:250, 298; 10:498; 12:352; 14:334, 360, 369, 383, 393; remedies, 1:33; 2:28, 29; 6:169; 7:367-68; 9:361-64.
diadema, *Sinea*, 1:331; 11:270.
Dianthus heddewigii, see *Pink*.
Diapheromera femorata (syn. *Spec-trum*), 1:111; 6:189; 9:446; 10:512, 519; 12:363; 14:310.
Diaspinae, 6:143; 11:200.
Diaspis amygdali (syn. *D. lanatus*), 12:355; 14:394.
 lanatus, see *D. amygdali*.

- Diaspis ostreaeformis*, erroneous reference of *D. pyri*.
pyri (syn. *Aspidiotus circularis*, *A. ostreaeformis* in error), 1:331; 11:271.
rosae, see *Aulacaspis*.
- Diastictis ribearia* (syn. *Abraxas*, *Eufitchia*), 1:299, 306; 9:456; 12:310-11, 360; 13:372⁴; 14:313⁷, 399⁴.
- Dibolia aerea*, see *D. borealis*.
borealis (syn. *D. aerea*), 10:414-16, 511; 12:352; 14:393⁴.
ovata, 10:416.
- Dibrachys boucheanus* (syn. *Semiotellus clisiocampae*), 6:186.
- Dicerca*, 4:20, 22.
divaricata, 1:330; 11:267; 12:361.
manca, 5:286.
tuberculata, 5:286.
- diceros*, *Ceresa*, 9:390.
- Dichelonycha elongata*, 10:516.
- Dichrorampha scitana*, see *Grapholitha interstinctana*.
- dichrous*, *Attagenus*, see *A. piceus*.
- Dick, A. W. K., insects from, 13:374⁷.
- dictaea*, *Notodonta*, see *Pheosia dimidiata*.
Pheosia, see *P. dimidiata*.
- Dictamnus fraxinella*, see *Fraxinella*.
- didyma*, *Bombyx*, see *Basilona imperialis*.
- Diedrocephala coccinea* (syn. *Proconia quadrivittata*), 9:395-96, 410.
mollipes (syn. *Aulacizes*), 9:396, 410.
noveboracensis (syn. *Aulacizes*), 9:396, 410.
- differentialis*, *Caloptenus*, see *Melanoplus*.
Melanoplus (syn. *Caloptenus*), 6:134; 11:271.
- diffinis*, *Hemaris* (syn. *Sesia*), 9:450, 451; 14:312².
Sesia, see *Hemaris*.
- Digger wasp, large, 10:515; 12:359.
- Dimeraspis podagra*, see *Microdon globosus*.
- dimidiata*, *Pheosia* (syn. *P. dictaea*, *Notodonta dictaea*), 7:375; 8:296; 10:508; 14:321⁵.
- diminuta*, *Agromyza* (syn. *Oscinis trifolii*), 6:184; 14:329⁹.
Phytomyza, 7:243.
- Dimmock, A. K., cited, 5:184, 193; 7:225; 13:344².
- Dimmock, G., cited, 4:80; 5:227; 7:256, 280; 9:300; 11:175, 181; 12:190, 218, 235, 238, 264; quoted, 12:324; referred to, 12:222, 266; *Anatomy of the mouth parts and of the sucking apparatus of some Diptera* cited, 12:329.
- Dimon, R. J., insects from, 10:511.
- Dinoderus bifoveolatus*, 11:286.
- Diospyros*, *Aspidiotus perniciosus* on, 11:224.
virginiana, see *Persimmon*.
- Diphtera deridens*, see *Charadra*.
- Diplax obtrusa*, 4:208.
rubicundula, 7:220.
- Diplosis*, 4:63.
caliptera (syn. *Cecidomyia*), 1:297.
cucumeris (syn. *Cecidomyia*), 5:306; 8:212; 11:165-68; 12:357; 14:308³, 355⁶, 395⁵.
graminis (syn. *Cecidomyia*, *C. cerealis*), 1:311, 321.
inimica (syn. *Cecidomyia*), 1:321.
nigra, see *D. pyrivora*.
pyrivora (syn. *D. nigra*), arched filaments of, 11:169, 170; deformation of fruit, 8:145-46; description of stages, 8:142, 147, 148; detailed account, 8:140-51; 10:386, 387; distribution, 8:149-50; early observation of larvae, 10:386; egg-laying, 8:148-49; first noticed in U. S. 8:142-43; how the larva leaves the fruit, 8:146; noticed at Catskill, N. Y., 8:144-45, 288; pear seriously attacked, 8:141, 283; pupation, 8:147-48; reference, 7:335; 8:106, 297; 9:318, 441; 10:497, 510, 516; 11:119, 166, 278, 285; 12:351, 361; 14:371², 371⁵, 371⁷, 373³, 375¹, 378⁷, 382², 389³, 393¹; remedies, 8:150-51; spread of, 10:387.
septemmaculata, 5:280.
setigera compared with pear midge, 11:169-70; imago described, 11:168-69; injuring muskmelons, 11:168; reference, 12:357; 14:308⁴, 395⁵.
tergata (syn. *Cecidomyia*), 1:297.
thoracica (syn. *Cecidomyia*), 1:297.
tritici, 7:6, 8, 138, 201; 2:31; 8:255; 14:379³.
- Diptera, Chalcids parasitic on, 1:160; classification, 1:78, 79; 4:167, 190; 8:301; 9:465; contributions of, 4:206-7, 5:325; 6:188; 7:382; 8:301; 9:462; 10:510, 516; 11:285; 12:361; delayed pupation of, 1:138; described by J. A. Lintner, 14:308¹;

- descriptions of new species, 1: 208, 209, 298; 4:70-71; 7:243; 10: 394-96, 398, 401-2; 11:166-67, 168, 169; Gordius parasitic on, 4:126; injurious to apple trees, list, 1: 330; 11:267; mouth parts of, 12: 327; number of species, estimate, 4:181; pollen eaten by, 1:211; reference, 1:297; 2:45; 10:359, 360; 11:106, 237; 12:334, 338, 344; sense organs of, 1:69; 4:180; species treated of, 1:168-227; 2:44-46, 110-25; 4:60-80; 5:220-27, 262-66; 6:111-17; 7:228-46, 307-10; 8:140-51, 172, 192-97; 9:309-14; 10:386-406; 11:162-72; 12:223-34, 319, 335; studies in, 4:10, 164.
- diptera, Psectra (syn. Hemerobius, *H. delicatulus*), 4:176.
- dipterus, Hemerobius, *see* Psectra diptera.
- discoloralis, Renia, 10:482.
- disconotus, Crophius, 11:270.
- discopunctana, Amphisa, 10:483.
- disippus, Limenitis, *see* Basilarchia archippus.
- Disippus butterfly, 1:327; 2:220; 4: 174; 10:507; 11:264.
- disjuncta, Bolitophila, 10:392.
- Disonycha pennsylvanica, 11:264. triangularis, 7:383.
- dispar, Ocneria, *see* Porthetria.
- Porthetria (syn. Ocneria), 7: 302-4, 336, 357; 9:422-26, 432-33, 434, 440; 10:369-72, 485; 11:264; 14:363⁹, 374⁷, 377⁶, 392⁹.
- Xyleborus (syn. *X. obesus*, *X. pyri*, *Scolytus obesus*, *S. pyri*), 1:310, 331; 3:141; 4: 203; 5:300, 318, 325; 7:348-51, 361, 370, 383; 8:299; 9:366, 419; 11:270, 286; 14:318⁶, 340⁴, 349⁶, 351⁵, 353¹, 365⁵.
- disposita, Xylina, 1:341.
- dissecta, Acronycta, *see* *A. retar-data*.
- dissimilis, Hypothenemus, 11:270.
- Dissosteira carolina, 10:443.
- disstria, Clisiocampa, *see* Clisiocampa disstria.
- Distant, W. L., *Biologia Centrali-Americana: Rhynchota*, cited, 10: 432.
- distema, Grapholitha, *see* *G. inter-stinctana*.
- Distenia undata, 11:268.
- divaricata, Dicerca, 1:330; 11:267; 12:361.
- Divaricated Buprestis, 11:267.
- diversalis, Mecyna, 11:144.
- diversiceps, Achorutes (also as *Po-dura* species), 8:266; 11:253, 254; 12:357; 14:308⁶, 315⁷, 320⁷, 396².
- diversilineata, Petrophora, *see* *Eustroma diversilineatum*.
- diversilineatum, Eustroma (syn. *Petrophora*), 10:483; 11:266.
- divinatoria, Atropos, 1:65, 161; 2: 198-202; 3:139; 14:342⁹.
- divinatorium, Termes, *see* *Atropos divinatoria*.
- divinatorius, Troctes, *see* *Atropos divinatoria*.
- Dobreche, G. F., insects from, 11: 285.
- Dobson, hellgrammite larvae, 7:254; 8:161; 10:501.
- Dock, insects injurious to; *Peridroma saucia* (syn. *Agrotis*), 5:205.
- Phytonomus punctatus*, 1:248.
- Plusia brassicae*, 2:91.
- Docosia sciarina, 10:392.
- Dodge, C. R., cited, 1:172, 239; 4: 151; 11:134.
- Dog day Cicada, *see* *Cicada*, dog day.
- Dog flea, 12:361.
- Dogbane, *Pyrausta futilalis* on, 11: 139.
- Dogbane caterpillar, 11:138-42; 12: 357.
- Dogwood, insects on; *Aspidiotus perniciosus*, 11:224.
- Enchenopa binotata*, 1:319.
- Phobetron pithecium*, 9:461.
- Dolerus, 3:140; 4:135.
- arvensis*, 3:89; 4:197; 13:371⁴; 14:348⁸.
- sericeus*, 4:197, 205; 14:348⁸.
- species, 14:357⁸.
- Dolph, J. M., insects from, 8:298, 299.
- domestica, *Lepisma*, *see* *Thermobia furnorum*.
- Musca*, 1:146, 223, 299; 4:167; 6:168; 8:265; 9:310, 314; 14: 360⁵.
- domestica-minor, *Musca*, *see* *Homalomyia canicularis*.
- domesticus, *Acarus*, *see* *Tyroglyphus siro*.
- Psocus*, 1:65, 162.
- Dominican case bearer, 11:269.
- dominicana, *Coscinoptera*, 11:269.
- Donacia piscatrix, 10:511.
- "Doodle" (ant lion), 11:241.
- "Doodle bugs" (tiger beetles), 11: 106.
- Doran, E. W., cited, 10:378; *Report on the economic entomology of Tennessee* cited, 7:256; insects from, 7:383; 9:463.

- Dorr, Mrs. insects from, 8:299.
dorsalis, *Acordulecera*, 13:371⁴.
Acutalis (syn. *Tragopa*), 9:392, 410.
Delphax, see *Stenocranus*.
Odontota (syn. *Anoplitis scutellaris*, *O. scutellaris*, *O. suturalis* in error), 1:309, 320; 10:369; 11:269; 12:264-67; 13:374¹; 14:399⁶.
Stenocranus (syn. *Delphax*), 9:386, 410.
Tragopa, see *Acutalis*.
Dorthesia, see *Orthezia*.
cataphracta, see *Orthezia*.
celastri (egg cluster of *Enchenopa*), 1:285, 286.
solani, see *D. celastri*.
viburni, see *D. celastri*.
Doryphora clivicollis (syn. *Chrysomela trimaculata*), 7:369; 14:318³.
decemlineata, 1:145, 244, 322; 2:3; 5:289; 6:132; 8:298; 9:297, 422; 12:237; 14:387².
Dowd, A., insects from, 6:189.
Downing's horticulturist cited, 2:168.
Downy mildew, 4:185.
Downy woodpecker preying on *Plagionotus speciosus*, 12:242.
Dracaena, *Aramigus fulleri* on, 2:143.
Dragon fly, 1:79; 2:178; 4:93, 124, 165, 167, 190; 10:377, 466; 11:104; 12:308, 331.
Drake, M. E., insects from, 8:297.
Drasterius elegans, 8:200.
Drepanosiphum acerifolii, 13:363¹; 14:400³.
Drosophila aceti, European, 1:220.
amoena, 1:221, 330; 11:267.
ampelophila, 1:65, 216-21, 330; 6:117, 173, 177; 7:241; 11:267, 285; 14:323⁷, 326⁶, 335⁹.
cellaris, 1:220.
flava, 1:220.
funebis, 1:218, 220.
graminum, 1:218.
species, 1:218-21; 2:23, 124; 6:117; 14:367⁸.
transversa, 1:218.
Drosophilidae, 1:216-21.
drupiferarum, *Sphinx*, 1:327; 10:496, 508; 11:264; 14:309⁸, 381⁶.
Drury, Drew, *Illustrations of natural history* cited, 4:57; 13:342⁷; *Illustrations of exotic entomology*, 13:342⁷.
Dryocampa imperialis, see *Basilona*.
rubicunda, see *Anisota*.
senatoria, see *Anisota*.
dubitans, *Xylophasia*, 10:377.
dubius, *Cratacanthus*, 12:209.
Thanasimus, 4:142; 14:350³, 357⁹.
Ducks feeding on army worm, 12:208.
dumetellus, *Crambus*, 1:150.
Duncan, James, cited, 5:183.
Dung beetle, 3:102-3; 4:204; 7:312, 379; 9:440; 14:323⁵, 352³, 374⁵.
duodecimpunctata, *Crioceris*, see *Asparagus beetle*, 12 spotted.
Diabrotica, 7:217, 315, 382; 9:440; 11:269; 12:348; 13:373⁷; 14:374⁸, 391⁶.
Dupree, W. B., insects from, 13:371⁹.
Dust louse, 1:316.
Dwight, W. B., cited, 7:256.
Dyar, H. G., cited, 5:234; 7:225; 12:183, 186, 192, 218; 13:344³, 344⁵, insects from 7:381, 384; 8:296; 10:509, 510; 11:157, 285; 13:371⁴, 374⁴; quoted, 12:188; referred to, 12:184, 265; 13:346⁶.
dyaus, *Plusia*, see *P. rogationis*.
Dyer, L. W., insects from, 8:298.
Dynastes grantii, 5:227; 7:252.
hercules, 7:249.
hyllus, 7:249, 250.
tityus, 2:227; 5:227-31, 321; 7:246-55; 9:342, 440, 444, 463; 10:498; 11:274; 14:332⁵, 341³, 362⁸, 374⁵, 376⁴, 383⁸, 387⁷.
Dysdercus suturellus, 2:166; 6:183.
Dytiscidae, 4:182.
Dytiscus fasciventris, 3:141; 5:325; 8:298; 11:284.
harrisii, 3:141; 5:325; 10:493, 510; 14:380⁴.
marginalis, 8:298; 9:462.
Eacles imperialis, see *Basilona*.
Ear-worm, of corn, 1:121.
Earth-worms, 2:6, 36; 3:149; 7:378; 8:222; 14:322⁹.
Earwigs, 1:79.
Easter plant, *Plusia rogationis* (syn. *P. dyaus*) on, 2:94.
ebenus, *Aulacomeris*, 4:46.
Eccopsis malana, see *Exartema*.
permundana, see *Exartema*.
Eccoptogaster rugulosus, see *Scolytus*.
Echinomyia, 5:285.
Ecnomidea pithecium, see *Phobetreron*.
Eepantheria garzoni (syn. *E. senetii*), 5:317; 14:339⁸.
ocularia (syn. *E. scribonii*), bibliography, 12:183; distribution, 12:189; eggs described, 12:184; figures, 12:188, plates

- 1 & 4 fig. 1; food plants, 12:189; imago described, 12:188; innoxious, 12:189; larval transformations, 12:184-88; life history, 12:188-89; pupa described, 12:188; reference, 14:399³; table of last transformations, 12:187; variety *denudata*, 12:183, 188.
scribonia, *see* *E. ocularia*.
sennettii, *see* *E. garzoni*.
Ectobia germanica, *see* *Phyllo-dromia*.
Edema albifrons, *see* *Symmerista*.
Edge, T. J., cited, 11:127, 134.
edusa, *Colias*, *see* *Eurymus eurytheme*.
Erebus, *see* *Homoptera lunata* var.
Homoptera, *see* *H. lunata* var.
Edwards, Henry, cited, 1:81; 7:225; 8:129; 11:127, 134, 138, 146, 250; 12:183, 294; 13:342⁹.
Edwards, W. H., cited, 13:343⁷.
edwardsii, *Urocera*, 13:342¹, 342³.
Eel worms, 6:165; 11:255; 14:359².
Egg plant, insects injurious to;
Coptocycla clavata, 5:322; 6:126.
Macrobasis unicolor, 10:511.
potato beetle, 5:320.
Eggleston, W. S., insects from, 10:517.
egle, *Euchaetes*, 2:166; 3:91; 9:452; 10:481; 14:312³.
Elaphidion, 3:150; 9:359; 10:517.
incertum, 11:284.
ocellata, *see* *Oberea*.
parallelum, *see* *E. villosum*.
pruners, 11:125; 12:314.
putator, *see* *E. villosum*.
villosum (syn. *E. parallelum*, *E. putator*), 1:330; 3:141, 150; 4:179; 5:153, 268, 325; 6:170; 9:357-61; 10:498, 516; 11:268; 12:239, 314, 354, 356, 362; 13:359⁵, 373⁹; 14:345⁸, 361⁶, 363³, 383⁹, 394⁵, 395², 400².
Elaphrus ruscarius, 12:209.
Elateridae, 1:63, 314; 2:226; 3:101, 132; 4:141, 182; 8:199; 11:174-77, 267; 14:332¹.
Elder, insects injurious to;
Aphis sambucifoliae, 9:406.
Bucculatrix pomifoliella, 1:162.
Ceresa bubalus, 1:318.
Macrodaetylus subspinosus, 1:230.
electra, *Eudamus*, *see* *Thorybes*.
Thorybes (syn. *Eudamus*), 1:338; 6:179; 14:307², 327⁴, 336⁴.
elegans, *Drasterius*, 8:200.
Packardia, 8:296.
Scythropus, 3:141.
elimata var. *badicollis*, *Semiophora* (syn. *Agrotis badicollis*), 10:482.
Elipsocus, 1:161.
Elis genus, 1:172.
Elisha Mitchell scientific society
Journal cited, 4:103.
Ellema coniferarum, 9:449.
harrisii, 9:449; 10:508; 14:309¹.
pinastri, 9:449.
pineum, 9:449; 14:307³, 311⁷.
Ellery, Charles, insects from, 6:188.
Ellis, L. H., cited, 7:321.
Ellison, R., insects from, 6:189.
Ellwanger, G. H., insects from, 11:288.
Ellwanger & Barry, insects from 3:141; 6:190; 10:519; 11:285.
Ellychnia corrusca, 9:463.
Elm, insects injurious to;
Aspidiotus perniciosus, 11:224.
Cacoecia argyrospila, 7:356.
Callipterus ulmifolii, 13:362⁷.
Cecidomyia balsamicola, 4:63.
Colopha ulmicola (syn. *Glyphina*), 3:126; 4:198, 326; 7:370; 14:318⁶.
Ennomos subsignarius, 1:329.
Euvanessa antiopa (syn. *Vanessa*), 2:230.
Galerucella luteola (syn. *Galeruca xanthomelaena*), 2:228; 3:145; 4:143, 144; 5:234-42, 300, 301, 314, 319, 322; 6:118; 7:217; 8:221, 222, 286; 9:297; 11:102, 103, 189-95, 275, 279; 12:259, 260, 261, 293, 349; 13:361⁵; 14:398¹.
gall mites, 10:457.
Gossyparia ulmi, 6:189; 11:280, 287; 12:293, 295, 297, 317; 14:389⁶.
Halisidota caryae, 7:355.
Hylesinus opaculus, 4:144; 7:352.
Icerya purchasi, 4:137.
Macrodaetylus subspinosus, 1:229.
Magdalis armicollis, 12:246.
Mytilaspis pomorum, 11:202.
Neoclytus erythrocephalus, 12:246.
Notolophus leucostigma (syn. *Orygia*), 1:33, 64, 98; 2:77; 4:15; 5:317; 7:216; 9:295, 429, 437; 11:124-26, 279; 12:347, 350.
Paleacrita vernata (syn. *Anisopteryx*), 2:44; 5:258.
Pemphredon concolor, 8:163.

- Elm, insects injurious to;
Phloeotribus liminaris, 4:144.
Saperda tridentata, 9:427-28, 429; 10:484, 500; 12:243, 244, 355; 14:377², 399⁶.
Schizoneura americana, 5:319.
rileyi, 3:125.
ulmi (syn. *Lachnus*), 2:181; 9:407.
Scolytus species, 12:248.
Sitodrepa panicea, 4:92.
Systema marginalis, 4:156.
Thyridopteryx ephemeriformis, 1:84.
Tineid species, 9:462.
Tremex columba, 2:227; 4:38; 5:305; 8:163; 12:262.
Zeuzera pyrina, 9:426, 427, 428, 462.
American or white, insects injurious to;
Colopha ulmicola (syn. *Glyphina*), 3:126, 151; 4:198; 5:303; 7:370.
Galerucella luteola, 12:259, 260.
Gossyparia ulmi, 12:317.
Notolophus leucostigma (syn. *Orgyia*), 2:77.
English, insects injurious to;
Galerucella luteola, 11:191; 12:255, 256, 257, 260, 261; 13:361⁴, 369¹.
Gossyparia ulmi, 12:295.
Scotch, insects injurious to;
Galerucella luteola, 11:190, 191, 193; 12:260, 261.
Gossyparia ulmi, 12:295, 317.
slippery, insects injurious to;
Colopha ulmicola (syn. *Glyphina*), 5:303, 326.
Gossyparia ulmi, 6:189.
Saperda tridentata, 12:244.
Elm bark (drug), *Sitodrepa panicea* in, 4:92.
Elm bark beetle (*Phloeotribus liminaris*), 4:144, 204; 7:352; 9:367.
Elm leaf beetle, abundance in houses, 3:145; associated insects, 12:261-62; bibliography, 5:234; 12:253-54; brief notice, 1:228; 11:102, 103, 278-79; broods, 11:191, 192; 12:255-57; 13:360⁶-61⁸; Carolina Mantis preying on, 4:161; depredations of, 4:15, 143-44; 5:236-37; 9:429; 11:102, 103, 189-96; 12:255, 259, 260, 261, 293; detailed account, 5:234-42; 11:189-96; 12:253-64; European reputation, 5:236; food habits, 11:193; 12:258-59; habits of its family, 5:235-36; heavy rains destroying, 8:222; hibernation, 3:145; 5:238; introduction in the U. S., 5:236; life history, 5:237-39; 11:191, 192; 12:257-58; 13:360⁶-61⁸; natural enemies, 12:262; oviposition, 5:239; preference for certain species of elm, 11:193; progress up Hudson river, 11:189-90; pupation, 5:239; reference, 4:207; 5:303, 314, 319, 325; 6:118, 188; 7:335; 8:286; 9:422; 10:493, 511; 11:125, 275, 279, 286; 12:177, 265, 293, 294, 295, 318, 319, 349, 350, 357; 13:364², 366¹, 366⁶, 368⁹, 373⁸; 14:332⁸, 338⁴, 340⁶, 341⁷, 344⁵, 348⁸, 350⁵, 353³, 353⁵, 354⁴, 357⁹, 362⁹, 372⁷, 380³, 385⁵, 388², 389⁵, 390⁵, 391⁵, 392³, 392⁵, 395³, 395⁸, 396⁸, 397², 398¹, 399⁶, 400²; remedies, 4:200-1; 5:239-42, 301, 322; 10:502; 11:195, 196; 12:263, 264, 350, 351; spread, 4:15-16, 143, 197; 7:217; 9:297; 11:102, 189, 190, 194, 195; 12:259, 260; second brood in Albany, 11:102, 191, 192; transformations, 11:192; 12:257, 258.
Elm tree bark louse, 12:292-98, 317-18; 14:399⁶, 399⁷.
Elm tree borer (*Saperda tridentata*), 9:427-29; 10:484, 485, 499; 12:239, 243-48, 355; 14:377², 377⁵, 384⁶, 394⁶, 399⁶.
Elmore, E. A., insects from, 3:141.
elongata, *Dichelonycha*, 10:516.
Systema, 9:344.
elongatus, *Pasimachus*, 12:209.
Elting, Jessie, insects from, 13:374⁹.
elymi, *Isosoma*, 4:32.
Elymus canadensis, *Isosoma elymi* infesting, 4:32.
Emasculating bot fly, 2:45; 4:174; 13:372⁸.
emasculator, *Cuterebra*, 2:45; 4:174; 7:367; 13:372⁸; 14:368⁹.
Embiidina, 4:176.
Emerton, J. H., cited, 11:240.
Emesa longipes, 6:189; 13:374⁹.
Emmons, Ebenezer, *Natural history of New York, Agriculture*, cited, 1:227, 233, 271, 281; 2:102; 5:231, 234; 7:225.
Emmord, F. W., insects from, 9:463.
Emphytus cinctus, 10:499; 14:384⁴.
maculatus, see *Harpiphorus*.
Empoa, see *Typhlocyba*.
coccinea, see *Typhlocyba*.
querci, see *Typhlocyba*.
rosae, see *Typhlocyba*.
Empoasca albopicta, 11:270.
birdii, 11:270.
fabae (syn. *Erythroneura*), 9:403, 410.
obtusa, 11:270.
viridescens, 11:271.
Empretia stimulea, see *Sibine*.

- Empusa americana*, see *Entomophthora*.
muscae (syn. *Entomophthora*), 2:179; 5:272; 9:314.
- Enchenopa binotata* (syn. *Enchophyllum*), 1:281-88, 319; 4:203; 6:177; 9:387, 410; 10:493, 512; 11:270; 14:326⁵, 336⁵, 351⁴, 380⁸.
lanceolata (syn. *Membracis*), 1:283.
- Enchophyllum*, two spotted, 9:387.
Enchophyllum binotatum, see *Enchenopa binotata*.
latipes, see *Campylenchia curvata*.
- Encyclopedia Britannica* (*American edition*) cited, 4:28.
Encyclopedie d' Histoire naturelle.—*Noctua* cited, 2:102.
Encyclopedie methodique cited, 1:232, 247; 2:102, 132, 187; 5:174, 179, 234; 7:246; 9:300; 11:174.
- Encyrtinae*, 1:160.
Encyrtus bucculatricis, 1:160.
Endropia bilinearia, 11:284.
 Engle, H. M., growing chestnuts, 12:268.
 English elm, see *Elm*, English.
 English oak, see *Oak*, English.
 English sparrow, see *Sparrow*, English.
- Ennominae*, 8:287.
Ennomos magnarius, 9:456; 11:266; 14:313⁷.
subsignarius (syn. *Geometra niveosericearia*), 1:329; 2:69, 76, 77; 11:121, 266.
- Entedon* species, 4:27, 205; 11:165.
Entedoninae, 10:369.
Entilia concava, see *Publilia sinuata*, 9:387.
- Entomol. biol. studien* cited, 11:162, 164.
Entomologica americana cited, 3:154; 4:20, 104, 128; 5:164, 220; 7:280, 296; 8:129; 11:249, 250; 12:183, 192, 264, 272; 13:344¹; 14:347¹.
- Entomological collections*, 4:169.
Entomological libraries, 4:170.
Entomological magazine, cited, 2:116.
Entomological news cited, 7:324; 8:288; 10:478; 11:225, 232, 233; 12:190, 194, 248, 249, 253, 272, 293; 13:338⁷, 344³, 344⁵; 14:373⁵.
- Entomological societies*, 4:169.
Entomological society of London, *Transactions* cited, 1:81; 2:136; 4:151; 7:280; 10:477; 11:240.
Entomological society of Ontario; *Report*, abstracts from, 13:338⁵, 343⁵, 344¹, 352², 353³; 14:305⁴, 320⁶, 323², 331⁷; *Report* cited, 1:116, 127, 152, 173, 227, 233, 254, 264, 271; 2:57, 69, 89, 97, 102, 132, 149; 4:28, 35, 63, 80; 5:164, 216, 246; 6:125; 7:225, 255, 256; 8:129, 160; 9:300; 10:405, 416, 417, 453, 454; 11:109, 134, 146, 152, 233, 248, 249, 250; 12:183, 191, 192, 193, 194, 218, 230, 235, 237, 238, 243, 253, 272.
- Entomological society of Philadelphia*, *Proceedings* cited, 1:81, 87, 116; 2:68, 203; 4:42, 51, 57; 5:173, 184, 192, 246; 7:225; 8:155, 159; 10:388, 507; 11:248; 12:183, 290; 13:340³, 343¹; 14:309⁴, 309⁶, 309⁷.
- Entomological society of Washington*, *Proceedings* cited, 4:104; 5:227; 7:247, 296, 297; 10:388; 11:178, 182; 12:192, 253, 254, 272; 13:353⁴.
- Entomological studies abroad*, 4:180.
Entomologique Horticulteur cited, 1:172.
- Entomologist* cited, 8:141, 11:146.
Entomologists of agricultural experiment stations, 7:337.
- Entomologists, economic*; writings of, 1:15; Association of, 11:103, 181, 189.
Entomologist's monthly magazine cited, 1:173, 181, 207; 2:198, 203; 7:280; 8:141; 10:405; 11:146.
- Entomology, Bureau of*, at Washington, 4:182; 7:340; 12:182; early studies in, 4:163-64; importance of study of, 1:1; 8:262-63; 12:336-45; in agricultural journals, 4:179-80; in schools, 4:171; literature of economic, 4:165, 166, 176-79; 8:272-74; 9:429-32; progress in economic, 1:16-20; 7:337; progress in general, 4:9-11; publications in 1875 in the several orders, 4:172-79; science of, present status in the United States, 4:163.
- Entomophaga*, 4:181.
Entomophthora americana (syn. *Empusa*), 9:314.
muscae, see *Empusa*.
phytonomi, see *E. sphaerosperma*.
sphaerosperma (syn. *E. phytonomi*), 7:315.
- Entozoa*, 4:125.
enucleata, *Acidalia*, see *Synelys*.
Synelys (syn. *Acidalia*), 10:483.
Eois lacteola (syn. *Acidalia*), 7:375; 14:307⁹, 321⁷.
- Epargyreus tityrus* (syn. *Eudamus*), 1:337.
Epeira, 3:142.
insularis, 9:464.

- Ephedrus plagiator*, 5:253.
Ephmera natata, *see* *E. simulans*.
simulans (syn. *E. natata*), 4:121; 14:350³, 357⁷.
verspertina, of Europe, 4:124.
ephemeraeformis, *Aegeria*, *see* *Thyridopteryx*.
Thyridopteryx, *see* *Thyridopteryx ephemeraeformis*.
Ephemeridae, 4:121-24, 6:178; 9:298, 464; 14:327².
Ephestia interpunctella, *see* *Plodia kuhniella*, 14:349³.
Ehippiphora interstinctana, *see* *Grapholitha*.
Epiaeschna heros (syn. *Aeschna*), 1:322; 12:364.
Epicaerus imbricatus, 1:331; 11:269.
Epicauta cinerea (syn. *E. marginata*), 1:33, 57; 4:201, 208; 6:134, 135, 136, 182; 8:294; 12:354, 361; 14:317⁴, 328⁸, 350⁸, 367⁹, 394³.
marginata, *see* *E. cinerea*.
pennsylvanica (syn. *Cantharis atrata*), 1:305; 2:227; 6:135-36, 170; 9:443, 463; 10:496; 11:281, 284, 286; 13:374²; 14:332⁷, 361⁷, 368¹, 376², 381⁴, 390⁴.
vittata (syn. *Cantharis*), 1:33, 40, 57; 6:132-34, 136, 176; 7:376; 12:354; 14:322⁵, 326¹, 367⁹, 394³.
Epicordulia princeps (syn. *Epi-thea*), 11:288.
Epidapus, 10:388, 398, 447.
scabies, 10:447.
epigaea, *Plusia*, 10:377.
epigena, *Eudamus*, *see* *E. epigona*.
epigona, *Eudamus* (syn. *E. epigena*), 7:375; 14:321⁵.
Epilachna borealis (syn. *Coccinella*), bad reputation of, 7:217, 310-11; 8:126; reference, 1:322; 7:382; 8:105, 298; 9:440; 10:511; 14:374⁴.
epimenis, *Psychomorpha*, 9:455; 14:313².
Epitheca princeps, *see* *Epicordulia*.
Epitrix cucumeris (syn. *Crepidodera*), 1:33, 65, 195, 224; 2:29; 4:156; 5:271; 10:489; 11:269; 13:373⁹; 14:378⁹.
equi, *Gastrophilus* (syn. *Oestrus*), 1:299.
Oestrus, *see* *Gastrophilus*.
Psoroptes, *see* *P. communis*.
Erannis tiliaria (syn. *Hybernia*), 1:72, 320; 11:266.
Erastria apicosa, 10:482.
carneola, 9:456.
muscosula, 10:482.
synochitis, 10:482.
Erax rufibarbis, 1:319.
Erebus edusa, *see* *Homoptera lunata* var.
odora, 4:138; 7:306; 9:440; 14:357⁹, 374³.
erectalis, *Botis*, *see* *Pyrausta futilalis*.
Hypena, *see* *H. scabra*.
erectus, *Hypothenemus*, 11:270.
eremicola, *Osmoderma*, 1:330; 11:268.
eremitis, *Sphinx*, 10:508; 14:309⁸.
Ergot, *Sitodrepa panicea* in, 4:52.
ericellus, *Crambus*, 1:150.
ericetorum, *Pyrgus*, 1:336.
erichsonii, *Lygaeonematus*, *see* *Lygaeonematus erichsonii*.
Nematus, *see* *Lygaeonematus*.
Eriocampa adumbrata, 5:323; 14:342².
cerasi, *see* *Eriocampoides limacina*.
Eriocampoides limacina (syn. *Eriocampa* and *Selandria cerasi*), 1:42, 60; 7:352; 9:335-36, 440; 10:498; 12:359; 14:372⁵, 383⁶.
Eriococcus, 11:280.
Eriosoma fagi, *see* *Phyllaphis*.
imbricator, *see* *Pemphigus*.
lanigera, *see* *Schizoneura*.
pyri, *see* *Schizoneura lanigera*.
strobi, *see* *Lachnus*.
tessellata, *see* *Pemphigus*.
Erirhipis inda, *see* *Euphoria*.
Eristalis, 1:212; 2:223.
brousi (syn. *E. meigenii*), 9:462.
coactus, *see* *Mallota posticata*.
flavipes, 7:229.
meigenii, *see* *E. brousi*.
posticatus, *see* *Mallota posticata*.
tenax (syn. *Helophilus*), 1:212; 6:188; 7:229, 233, 363, 382; 9:462; 10:510, 519; 11:284; 13:372⁸; 14:366⁷.
Ermine moth, 1:306.
moth, *Virginia*, 1:328; 11:264.
erosa, *Acanthia*, *see* *Phymata wolfii*.
Clisiocampa, *see* *C. distria* race.
Phymata, *see* *P. wolfii*.
error, *Anopedias* (syn. *Platygaster*), 1:321; 2:2.
Platygaster, *see* *Anopedias*.
eruditus, *Hypothenemus*, 11:270.
erythrocephalus, *Neoclytus*, 6:188; 10:511; 11:268; 12:246.
Erythroneura, *see* *Typhlocyba*.
affinis, *see* *Typhlocyba comes* var. *basilaris*.
basilaris, *see* *Typhlocyba comes* var.

- Erythroneura fabae*, *see* *Empoasca mali*, *see* *Typhlocyba*.
obliqua, *see* *Typhlocyba*.
vitifex, *see* *Typhlocyba comes*.
vitis, *see* *Typhlocyba comes* var.
vulnerata, *see* *Typhlocyba*.
erythropus, *Crepidodera*, *see* *C. rufipes*.
 Essex institute, *Bulletin* cited, 11: 250.
Estigmene isabella, *see* *Pyrrharcia*.
ethlius, *Calpodes* (syn. *Pamphila*), 10:502; 14:385⁷.
Pamphila, *see* *Calpodes*.
eubule, *Callidryas*, 1:72.
Euchaetes collaris, *see* *Cyenia tenera*.
egle, 2:166; 3:91; 9:452; 10:481; 14:312³.
oregonensis, 9:455; 14:313⁵.
euchenor, *Ocyptera*, 12:210.
Euclea cippus (syn. *E. querceti*), 1: 328; 5:186; 11:264.
querceti, *see* *E. cippus*.
Euclemensia bassettella, 12:317, 363.
Eudamus, 2:214; description of new species of, 1:338, 339.
electra, *see* *Thorybes*.
epigena, *see* *E. epigena*.
epigena (syn. *E. epigena*), 7:375; 14:321⁵.
mexicana, (syn. *E. nevada*) 1: 337; 6:180; 14:327⁷.
nevada, *see* *E. mexicana*.
proteus, 1:337; 6:180; 14:327⁷.
pylades, 1:337, 338.
tityrus, *see* *Epargyreus*.
Eudemis botrana, 2:33.
Eudioptis hyalinata, *see* *Margaronia*.
nitidalis, *see* *Margaronia*.
Eudryas grata, *see* *Euthisanotia*.
unio, *see* *Euthisanotia*.
Eudule mendica (syn. *Euphanessa*), 10:481.
Eufitchia ribearia, *see* *Diastictis*.
Eugonia j-album (syn. *Grapta*), 4: 137; 5:282, 317; 10:507; 14:309⁵, 339⁶.
Eulimacodes scapha (syn. *Limacodes*), 1:328; 11:264.
Eulophus, 1:159; 6:186; 10:369.
Eumacaria brunnearia, 11:266.
Eumenes fraternus, 2:231; 5:268; 6: 109-11; 13:371⁹; 14:334³, 367⁷.
Eumenidae, 5:268; 6:111.
Eunemoria gracilaria, *see* *Synchlora glaucaria*.
euonymi, *Chionaspis*, 11:288.
Euonymus, *Aspidiotus perniciosus* on, 11:223.
Euonymus scale, 11:288.
Euparthenos nubilis (syn. *Parthenos*), 3:136.
Eupatorium; insects injurious to;
Enchenopa binotata, 1:287.
Peridroma saucia (syn. *Agrotis*), 5:205.
Phytomyza chrysanthemi (*P. lateralis* in error), 4:76; 7: 242; 9:421.
Eupatorium ageratoides, *see* *Easter* plant.
purpureum, *Homohadena atrifasciata* on, 5:285.
Eupelmus allynii, 4:33.
Euphanessa mendica, *see* *Eudule*.
Euphoeades troilus (syn. *Papilio*), 10:507; 14:309⁴.
Euphorbia, *Carpocapsa saltitans* (syn. *C. deshaisiana*) in, 4:151, 153, 154; 5:315; 8:291; 14:315⁶.
Euphoria, *Indian*, 1:232-39, 330; 8: 295; 9:443; 10:504; 11:268.
Euphoria fulgida, 8:286; 14:372⁷.
inda, 1:232-39, 330; 6:173; 8: 295; 9:442, 463; 10:503, 504, 516; 11:268; 12:313, 314, 356, 362; 14:317⁷, 324³, 336², 375⁸, 385⁹, 386⁴, 395², 399⁴.
melancholica, 1:236, 330; 3:141; 10:511; 11:268.
Euphydryas phæton (syn. *Melitæa*), 7:219; 9:448; 14:311⁶.
Euphyes metacomet (syn. *Pamphila*), 4:137.
Eupithecia luteata, *see* *Tephroclystis*.
Euplexia lucipara, 10:482.
Euplexoptera, 1:79.
Eupogonius tomentosus, 11:269.
Euprepia americana, *see* *Arctia* *caja*.
arge (syn. *Arctia*), 9:455; 14: 313⁵.
caja, *see* *Arctia*.
parthenice (syn. *Arctia*), 10: 481.
phyllira (syn. *Arctia*), 3:153.
virgo (syn. *Arctia*), 7:219; 11: 106.
Eurycreon chortalis, *see* *Loxostege rantalis*, *see* *Loxostege similalis*.
Eurymene keutzingaria, *see* *Plagodis*.
Eurymus, *eurytheme* (syn. *Colias chrysotheme*), 1:301.
philodice (syn. *Colias*), 1:301; 4: 136; 5:285; 7:316; 10:507; 12: 308; 14:309⁴.
Euryomia inda, *see* *Euphoria*.

- eurysternus, *Haematopinus*, 1:48.
 eurytheme, *Eurymus* (syn. *Colias chrysotheme*), 1:301.
Eurytoma, 1:307, 316; 4:105.
 fulvipes, see *Isosoma hordei*.
 funebis, 2:2.
 hordei, see *Isosoma*.
 secalis, see *Isosoma*.
 tritici, see *Isosoma*.
Euschistus fissilis, 10:519; 13:374⁴.
 variolarius, 2:146.
Eustroma diversilineatum (syn. *Petrophora*), 10:483; 11:266.
 populatum (syn. *Cidaria packardata*), 7:375; 14:321³.
Eutettix seminuda (syn. *Bythoscopus seminudus*), 9:398, 410; 11:270.
Euthisanotia grata (syn. *Bombyx Eudryas*), 1:33; 5:179-83; 6:177; 8:109, 170; 10:481, 497; 14:313², 326⁴, 362⁶, 382⁶.
 unio (syn. *Eudryas*), 5:183; 9:450, 455; 14:313².
Eutrapela transversata, see *Sabulodes*.
Euura species, 13:336⁶.
Euvanessa antiopa (syn. *Vanessa*), 2:230, 232; 4:137; 8:296; 10:507; 12:354, 359; 14:309⁵, 333⁸, 334⁶, 394⁴.
Euxesta notata, 11:267.
Evacanthus orbitalis, 9:397.
evecta, *Volucella*, 7:229.
Everes comyntas (syn. *Lycaena*), 4:137.
Evergestis rimosalis (syn. *Pionea*), 2:93.
 straminalis (syn. *Mesographa*), 3:140; 9:456; 10:483; 14:313⁷.
Everyx myron, see *Ampelophaga*.
Evoxysoma vitis (syn. *Isosoma*), 2:32; 4:33; 7:374; 8:292, 293; 14:316³, 316⁸, 321².
Exartema exoleta, 10:483.
 malana (syn. *Eccopsis*), 1:329; 11:121, 266.
 permundana (syn. *Eccopsis*), 1:329; 10:483; 11:266.
excaecatus, *Paonias* (syn. *Smerinthus*), 1:327; 10:508; 11:264; 14:309⁶.
 Smerinthus, see *Paonias*.
excitans, *Culex*, 12:321.
excrucians, *Culex*, 12:321.
Exechia fungorum, 8:172; 10:392.
 lateralis, 8:172.
 species, 8:109, 172, 297; 10:497; 14:382⁸.
eximia, *Oedemasia*, see *Schizura*.
 Schizura (syn. *Oedemasia*), 1:328; 11:265.
eximus, *Phytonomus*, 1:248.
exitiosa, *Aegeria*, see *Sanninoidea*.
 Cicadula, see *Limotettix*.
 Limotettix (syn. *Cicadula*), 6:174; 14:324⁵, 324⁶.
 Sanninoidea (syn. *Aegeria*, *Sannina*), 1:47, 57, 64, 259; 2:6, 60, 216; 4:107; 6:170; 8:181-86; 9:367; 14:361⁸.
 Sannina, see *Sanninoidea*.
Exoascus cecidomophilus, fungus attacking choke cherries, 12:313.
 deformans, see *Peach leaf curl*.
exoleta, *Exartema*, 10:483.
Exorista flavicauda, see *Belvoisia unifasciata*.
 militaris, see *Winthemia 4-pustulata*.
Experiment station record cited, 11:147.
Express [Albany], abstract from, 12:351; cited, 3:154; 4:197; 7:296, 361; 8:278, 282; 14:347², 348⁶, 365⁸, 369⁴, 370⁸, 392⁶.
exprimens, *Chariclea*, see *Pyrria umbra*.
expultrix, *Pseudothyatira*, see *P. cymatophoroides*.
exsectoides, *Formica*, 12:182; 14:399². See also *Formica rufa*.
exsiccatus, *Crambus*, see *C. trisectus*.
externum, *Calosoma*, 12:209.
exusta, *Ceramica*, see *Mamestra picta*.
Eyed Alaus, 1:330; 11:267.
Eysarcoris carnifex, see *Cosmopepla*.
fabae, *Bruchus*, see *B. obtectus*.
 Empoasca (syn. *Erythroneura*), 9:403, 410.
 Erythroneura, see *Empoasca*.
fabi, *Bruchus*, see *B. obtectus*.
fabricii, *Macrobasis*, see *M. unicolor*.
Fabricius, J. C., *Entomologia systematica emendata et aucta* cited, 2:164, 187; 4:35, 93; 5:179, 180, 227, 231, 234, 246, 253; 8:159; 9:307, 309; 10:411; 11:126, 134, 145, 174; 12:267; 13:338²; *Entomologiae systematicae, Supplementum* cited, 1:271; 2:136, 144; 9:300; 10:408; *Mantissa insectorum* cited, 1:232, 247; 2:132, 164, 167; 4:35, 80, 101, 120, 5:179, 234, 246, 253; 8:155, 159; 9:299; 13:338²; *Species insectorum* cited, 1:232, 247; 2:136, 164, 167, 187; 4:35, 80, 101, 120; 5:179, 227, 234, 246, 253; 8:155, 159; 9:299; 13:338²; *Systema antliatorum secundum ordines, genera, species*,

- adjectis synonymis, locis, observationibus, descriptionibus*, cited, 1: 211; 2:116; *Systema eleutheratorum secundum ordines, genera, species, etc.* cited, 1:232; 4:93; 5:227, 231; 9:299, 300; 10:408; 11:181; *Systema entomologiae sistens insectorum classes, ordines, genera, species etc.*, cited, 1:227, 232, 247; 2: 136, 164, 167, 187; 4:93, 101; 5: 227, 234, 246, 253; 8:155; 9:299; *Systema rhyngotorum secundum ordines, genera, species, adjectis synonymis, locis, observationibus, descriptionibus*, cited, 1:271; 5:246; 13:340².
- Fabricius, Otto, *Fauna Groenlandica* cited, 2:198.
- facetus, *Lepturges* (syn. *Liopus*), 1: 331; 11:269.
- Liopus*, see *Lepturges*.
- fagi, *Athysanus*, see *Bythoscopus*.
- Bythoscopus* (syn. *Athysanus*), 9:401, 411.
- Eriosoma*, see *Phyllaphis*.
- Phyllaphis* (syn. *Eriosoma*), 2: 181; 9:408.
- Telamona*, see *Heliria scalaris*.
- Fagus, *Datana integerrima* feeding on, 12:309.
- sylvatica*, see *Beech*, European.
- Fahraeus, O. J. von, *Artheschreibungen in Schönherrs Curculionen* cited, 2:140.
- Fairman, C. E., insects from, 11: 285.
- Falcata comosa (syn. *Amphicarpoea monoica*), *Odontota* feeding on, 12:266.
- falcatus, *Leptodesmus* (syn. *Polydesmus*), 12:301, 364; 13:375²; 14:308⁷.
- Falconer, William, cited, 4:73; 7:242; insects from, 6:188; 7:382; 9: 461, 464; 10:515, 516; 11:142, 143, 286, 287.
- Fall canker worm, see *Canker worm*, autumn or fall.
- Fallen, C. F., *Diptera Sueciae* cited, 4:73.
- False chinch bug, 1:195, 331; 2:166; 5:321; 11:270.
- familiaris, *Musca*, Harris MS, see *Pollenia rudis*.
- Fanning, J. O., insects from, 10: 510.
- farinae, *Acarus*, see *Tyroglyphus siro*.
- Tyroglyphus*, see *T. siro*.
- farinalis, *Asopia*, see *Pyralis*.
- Pyralis* (syn. *Asopia*), 8:300; 10: 483; 11:146, 151.
- Farm and home* cited, 5:302; 14:353⁸.
- Farmer and fruit grower* cited, 11: 112.
- Farmers' advocate*, abstract from, 13:364⁷; 14:396⁴.
- Farmers' register* cited, 2:102.
- fasciata, *Buprestis*, 10:516.
- Telamona* (syn. *T. unicolor*), 9: 390, 410.
- fasciatus *Culex* (syn. *C. mosquito*), 12:331.
- Gammarus*, 7:373; 11:288.
- Ipochnus*, 11:268.
- Ips*, see *I. quadriguttatus*.
- Oecanthus*, 5:310; 6:189; 10: 486; 11:284; 14:358⁷, 377⁷.
- fascilinellus, *Crambus*, 1:151.
- fasciola, *Lithacodes*, see *Tortricidia*.
- Tortricidia* (syn. *Lithacodes*), 1: 328; 9:456; 11:264; 14:313⁵.
- fascipennis, *Callostoma*, of Europe, 1:182.
- fasciventris, *Dytiscus*, 3:141; 5:325; 8:298; 11:284.
- fatidicus, *Troctes*, see *Atropos divinatoria*.
- Faulker, W. R., insects from, 11: 287.
- faunus, *Grapta*, see *Polygonia*.
- Polygonia* (syn. *Grapta*), 4:137; 5:282, 317; 10:507; 14:309⁵, 339⁶.
- Fauvel, C. A., cited, 7:256.
- Fay, F. A., insects from, 8:299.
- Felt, E. P., appointed assistant, 11: 105; papers by, 10:402, 403, 463-80; 11:138-42, 254-60; 12:223-29; reference, 13:332⁴.
- Feltia annexa* (syn. *Agrotis*), 8:235.
- herilis* (syn. *Agrotis*), 8:300; 10: 482, 519.
- jaculifera* (syn. *Agrotis tricola*, *F. tricola*), 9:456; 10:377, 482; 14:316⁶.
- malefida* (syn. *Agrotis*), 8:236.
- subgothica* (syn. *Agrotis*), 1:303, 340; 10:377, 482, 519; 12:360.
- tricola*, see *F. jaculifera*.
- femoralis, *Livia*, 9:404, 411.
- femorata, *Chrysobothris*, see *Chrysobothris femorata*.
- Diapheromera* (syn. *Spectrum*), 1:111; 6:189; 9:446; 10:512, 519; 12:363; 14:310⁶.
- femoratum, *Spectrum*, see *Diapheromera femorata*.
- femoratus, *Bibio*, 6:180; 14:328¹.
- Melanoplus*, 10:443.
- Metapodius*, 3:153; 12:209; 14: 347⁶.
- femur-rubrum, *Acridium*, see *Melanoplus*.
- Caloptenus*, see *Melanoplus*.

- femur-rubrum, *Melanoplus* (syn. *Acridium*, *Caloptenus*), 1:7, 304, 332; 2:190, 193; 6:151, 153; 8:294; 9:297, 332, 464; 10:440, 441, 442, 443, 496; 11:271, 284; 14:317³, 368³, 381⁵.
- fenestralis, *Rymosia*, 10:392.
Scenopinus, 2:44; 4:174; 7:312, 367, 382; 10:510; 12:311; 14:368⁷.
- fenestrata, *Cyrtosia*, see *Cyrtolobus fenestratus*.
- fenestratus, *Athysanus*, see *Bythoscopus*.
Bythoscopus (syn. *Athysanus*), 9:400, 410.
Cyrtolobus (syn. *Cyrtosia*), 9:389, 410.
- Fenisea tarquinius, carnivorous habits of larvae, 3:125-26; 4:179; 8:170; distribution, 2:231; 5:282; in Adirondacks, 4:137; 7:219; 8:169; reference, 5:317; 8:109; 9:346; 10:497; 12:308; 14:334⁴, 339⁶, 382⁵.
- fennica, *Agrotis*, see *Noctua*.
Noctua (syn. *Agrotis*), 8:235, 236.
- Fern, *Lecanium hesperidum* on, 10:512; 13:374⁷.
- Fernald, C. H., cited, 9:300; 11:109, 127, 134, 152, 233; 12:191, 218, 254; referred to, 11:104, 105; 12:221; 13:343³; *Catalogue of the described Tortricidae of North America, synonymical*, cited, 4:151; 5:213; *Orthoptera of New England* cited, 9:330.
- Fernow, Berthold, insects from, 5:324, 325; 7:383; 8:298, 299; 9:462, 463.
- ferrugalis, *Botis*, see *Phlyctaenia*.
Phlyctaenia (syn. *Botis*), 10:483.
- ferruginea, *Stene*, see *Tribolium ferrugineum*.
- ferrugineum, *Tribolium*, 2:136-39; 8:299; 9:308, 463; 14:342⁷.
- ferruginoides, *Orthosia*, see *O. bicolorago* var.
- fervidus, *Bombus*, 3:140.
- festiva, *Strachia* (syn. *S. ornata*), 1:270.
- Feverfew, corn, *Phytomyza chrysanthemi* (*P. lateralis* in error) on, 4:78.
double white, *Phytomyza chrysanthemi* (*P. lateralis* in error) on, 4:75.
- Fever worm (*Ecpantheria*), 12:189.
- fidicularia, *Caradrina*, see *C. multifera*.
- Field and forest cited, 4:151; 5:234; 11:134.
- Fiery ground beetle, 12:209.
- Fig, insects injurious to;
Allorhina nitida, 5:319.
Icerya purchasi, 4:187.
- Fig eater, 5:319; 14:340³.
- Fig tree bark louse, 1:301.
- Figites, 1:315.
rubus-caulis, 1:315.
- Figuier, Louis, *Insect world* cited, 10:477; 11:174, 240, 248; quoted, 11:176.
- Figures of;
Achorutes diversiceps, 11:253.
purpurescens, 2:207.
Adalia bipunctata, 9:306.
Aegeria tipuliformis, see *Sesia*.
Agrilus ruficollis, 6:124; 10:406.
Agriotes mancus, 8:198.
Agrotis clandestina, see *Noctua saucia*, see *Peridroma*.
ypsilon, 8:189.
Alaus oculatus, 4:141.
Aleochara anthomyiae, see *A. nitida*.
nitida (syn. *A. anthomyiae*), 1:188.
Aletia argillacea, 1:7.
Alypia octomaculata, 5:181.
Ampelophaga myron (syn. *Darapsa*), 5:176, 179; 8:187.
Amphibolips prunus, 4:43.
Amphicerus bicaudatus, 2:126, 127.
Amphidasys cognataria, see *Lycia*.
Anarsia lineatella, 1:152.
Anasa tristis, 2:165; 8:203.
Angoumois moth, 2:105; in corn, 2:103.
Anisopteryx vernata, see *Paleacrita*.
Anisota senatoria, 5:195.
Anomala lucicola, 10:409.
marginata, 10:412, 413.
Anosia plexippus (syn. *Danais archippus*) larva and pupa, 4:136.
ant, little red, 11:111.
ant lions, 7:318, 319.
Anthomyia radicum, 1:192.
zae, see *Phorbia fusciceps*.
Anthomyian eggs, 1:205.
Anthrenus scrophulariae, 1:10; 5:268; 9:301; 11:172; 13:359⁴.
var. *flavipes*, 9:301.
var. *thoracicus*, 9:301.
Antispila nyssaefoliella, 11:158.
Anurida maritima, 2:210.

Figures of (cont'd)

- Aphis brassicae*, 6:148; 7:317.
cucumeris, *see* *A. gossypii*.
gossypii (syn. *A. cucumeris*), 8:211.
mali, 5:161; 8:217.
Aphorura armata (syn. *Lipura fimetaria*), 2:209.
 apple fly, 2:124.
 apple leaf *Bucculatrix*, 1:158; 5:260; 8:131, 136.
 apple maggot, 2:119, 120.
 apple root plant louse, 5:160.
 apple tree aphid, 5:161; 8:217.
 apple tree borer, round headed, 5:270; 7:313.
 apple tree case bearer, 1:163; 8:217.
 apple twig borer, 2:126.
 aquaject, 1:30.
Aramigus fulleri, 2:143.
 asparagus beetle, 1:241; 9:343;
 cross bearer variety, 1:242;
 six spotted form, 1:243; 12:
 spotted species, 12:250.
Aspidiotus nerii, 5:278; 8:214;
 11, plate 9, fig. 2.
 perniciosus, 11, plates 12,
 13, 14.
Aspistes species, 2:115.
Atropos divinatoria, 2:201.
Attagenus piceus, 9:303.
 bacon beetle, 6:120.
 bag worms, 1:32.
Balaninus rectus, 12, plate 8,
 fig. 4-6.
Basilona imperialis (syn. *Eacles*), 13, plate 2.
 bean weevil, 7:260.
 beet leaf mining *Anthomyia*,
 1:203, 204.
Belostoma americana, 4:145.
Bibio albipennis, 2:111.
Bibio, white winged, 2:111.
 birchleaf *Bucculatrix*, 8:134, 135.
Bittacus strigosus, 10:473 and
 plates 3, 4.
Blissus leucopterus, 2:150, 153,
 155, 162.
 blister beetle, margined, 6:135.
 striped, 6:132.
 blood sucking cone nose, 4:112.
Boophilus bovis (syn. *Ixodes*),
 6:156.
 box elder plant bug, 4:157; 10:
 434.
Bruchus obsoletus, *see* *B. obtectus*.
 obtectus (syn. *B. obsoletus*),
 7:260.
 pisorum, 7:261.
 rufimanus, 7:280.

Figures of (cont'd)

- Bryobia pratensis*, 7: opp. p. 321.
Bucculatrix canadensisella, 8:
 134.
 pomifoliella, 1:158; 5:260;
 8:136.
 buffalo tree hopper, 4:146.
 burrows of *Scolytus rugulosus*,
 4:104.
 cabbage aphid, 6:148; 7:317.
 cabbage *Plusia*, 2:90.
Caloptenus femur-rubrum, *see*
 Melanoplus.
 spretus, *see* *Melanoplus*.
Calosoma calidum, 1:128.
 canker worm, 5:258.
 spring, 4:140; 5:258.
 canker worm trap, 1:64.
Carolina Mantis, 4:161.
 carpet beetle, 1:10; 5:268; 6:
 118; 13:359.
Carpocapsa saltitans, 4:151.
 cattle tick, 5:156, 157.
Cecidomyia balsamicola galls,
 4:61.
 betulae, 11, plate 1.
Ceresa bubalus, 4:146.
Cermatia forceps, *see* *Scutigera*.
Chauliodes pectinicornis, 8:158,
 plate 1.
 rastricornis, 8:156.
 serricornis, 8:158.
Chauliognathus pennsylvani-
 cus, 4:86; 9:344.
 Cheese mite, 5:292.
Chermes abieticolens, *see* *C.*
 abietis.
 alietis (syn. *Chermes*
 abieticolens), 2:185.
 pinicorticis, 2:182.
 Cherry tree slug, 9:335.
 Chicken louse, 5:290.
Chilocorus bivulnerus, 2:186; 5:
 267.
 Chinch bug, 2:150, 153, 155, 162.
Chionaspis furfurus, 11, plate
 8, fig. 2.
 pinifoliae, 5:266; 11, plate
 9, fig. 1.
Chloropisca prolifica, *see* *C.*
 variceps.
 variceps (syn. *C. prolifica*),
 4:71; 7:234, plate.
Chortophaga viridifasciata, 2:
 188; 9:331.
Chortophila betarum, *see* *Pegomyia*.
 chrysanthemum fly, 7:224.
Chrysopa, 2:186.
Cicada septendecim, 2:168, 173,
 174; 7:297; 10:422, 423; 12:
 275, plates 9-13.

Figures of (*cont'd*)

- Cingilia catenaria* (syn. *Zerene*), 4:139.
Cirrospilus flavicinctus, 1:159.
Clastoptera, on pine, 8:154.
Clastoptera obtusa, 8:153.
Clothilla pulsatoria, 2:202.
 clover hay caterpillar, 13:358⁴.
 clover leaf weevil, 7:315.
 clover mite, 7, opp. p. 321, 322.
 cluster fly, 9:309.
Coleophora malivorella, 1:163; 8:217.
Conorhinus sanguisugus, 4:112.
Conotrachelus crataegi, 10:419.
 nunuphar, 7:289.
Corimelaena pulicaria, 8:213.
 corn, eaten by corn worm, 1:123; eaten by *Phorbia fusciceps* (syn. *Anthomyia zeae*), 1:200.
 corn curculio, 1:255.
 corn worm, 1:118, 123.
 corsair, black, 4:170.
 two spotted, 4:112.
Corydalis, horned, 8, plate 2.
Corydalis cornuta, 8, plate 2.
Corythuca arcuata, 4:108.
Cosmopepla carnifex, 2:145.
Cossus centerensis, pupa case, 2:216.
 Cotton worm, 1:7.
 Cottony cushion scale, 4:187.
 Cow horn fly, 5:224.
Crambus trisectus (syn. *C. exsiccatus*), 1:149.
 vulgivagellus, 1:137, 138, 141, 142.
Craponius inaequalis, 9:365.
Crioceris asparagi, 1:241, 242, 243; 9:343; 11:178; 12:250.
 12-punctata, 12:250.
 cucumber beetle, striped, larva of, 9:362.
 cucumber root, infested, 9:362.
 curculio catcher, 1:57; 7:294.
 currant *Amphidasys*, 2:99, 100.
 currant stem borer, 2:60.
 cut worm, black, 8:189.
 bronze colored, 4:54.
 cuttings in fir by *Monohammus confusor*, 2:50.
Cyllene pictus, 8:175.
Danaus archippus, *see* *Anosia plexippus*.
Darapsa myron, *see* *Ampelophaga*.
 death watch, 2:202.
Dendroleon obsoletum, 7:319.
Dermanyssus avium, 5:290.
Dermestes lardarius, 6:118.
 vulpinus, 4:89.

Figures of (*cont'd*)

- Diabrotica 12-punctata*, 7:315.
 vittata, 9:362.
Diplosis cucumeris, 11, plate 2.
 pyrivora, 8:142.
 setigera, 11, plate 3.
Dorthesia cataphracta, *see* *Orthesia*.
Drosophila ampelophila, 1:216.
 species, 2:124.
 dusting box for paris green, 1:27.
Dynastes hyllus, 7, opp. p. 250.
 tityus, 5:229; 7:247, 248, 250.
Ecpantheria ocularia (syn. *E. scribonia*), 12, plate 1, plate 4, fig. 1.
 scribonia, *see* *E. ocularia*.
 eight spotted forester, 5:181.
 elm leaf beetle, 4:144; 5:235.
 elm tips, girdled, 2:87.
Enchenopa binotata, 1:282, 283, 287.
Encyrtus bucculatricis, 1:160.
Epilachna borealis, 7:311.
Eriocampa cerasi, *see* *Eriocampoides limacina*.
Eriocampoides limacina (syn. *Eriocampa cerasi*), 9:335.
Euclemensia bassettella, 12, plate 5, fig. 2-7.
Eudiotis hyalinata, *see* *Margaronia*.
 nitidalis, *see* *Margaronia*.
Eudryas grata, *see* *Euthisanotia*.
Eumenes fraternus, 6:109.
Euphoria inda, 1:234.
 European bean weevil, 7:280.
 European long sting, 8:165.
Euthisanotia grata (syn. *Eudryas*), 5:181, 182; 8:170, 171.
Evoxysoma vitis (syn. *Isosoma*), 4:33.
 eye spotted bud moth, 7:306.
 Field force pump, 7:292.
 Force pumps, 7:292, 293.
Galerucella luteola (syn. *G. xanthomelaena*), 4:144; 5:235; 12:259; plate 8, fig. 1.
 xanthomelaena, *see* *G. luteola*.
Gamasus longipalpoides, 11, plate 16, fig. 1, 1a.
 garden flea, 2:207.
Glycobius speciosus, *see* *Plagionotus*.
Gordius, 4:125.
Gortyna nitela, *see* *Hydroecia*.
Gossyparia ulmi, 12, plate 14, fig. 2-5.
 Goulds pump, 7:292.

Figures of (*cont'd*)

grain aphid, 5:247.
 grape seed midge, 4:33.
 grape vine flea beetle, 4:96; 7:353.
 grape vine hog caterpillar, 5:176.
 grape vine moth, green, 5:179.
Grapholitha interstinctana, 11:153.
 grass hopper, red legged, 1:7; 6:152; 10:441.
 green house *Sciara*, 10, plate 1.
Gryllotalpa borealis, 6:149.
 gypsy moth, 7:302.
Haematobia serrata, 5:224.
 hag moth, 5:184, 188, 189.
 hair worms, 4:125.
Haltica chalybea, 4:96; 7:353.
 harlequin cabbage bug, 1:265.
Harmonia picta, 2:186.
Heliothis armiger, 1:118.
Helophilus latifrons, 7:230, 232.
 similis, 7:230.
Hemileuca maia, egg cluster, 2:75.
 hemlock larvae, 4:23.
Heraclides cresphontes (syn. *Papilio*), 9:337.
 Hessian fly, 5:286.
Heteropus ventricosus, 2:110; 10:385.
Hexagenia bilineata, 4:124.
 hickory tree borer, 8:175.
Hippodamia convergens, 5:257.
 hop vine aphid, 8:208.
Hydroecia nitela (syn. *Gortyna*), 1:113; 8:191.
 hydronette, 1:29.
Hylemyia deceptiva, *see* *Phorbia fusciceps*.
Hypoderma bovis, 6:112.
Icerya purchasi, 6:187.
 imperial moth, 13, plate 2.
Incurvaria acerifoliella, 5:219.
 isabella tiger moth, 7:226.
Isosoma grande, 4:32.
 hordei, 4:28, 31.
 vitis, *see* *Evoxysoma*.
Ixodes bovis, *see* *Boophilus*.
Janus integer, 13, plate 1, fig. 2.
 joint worm fly, 4:28.
 joint worm parasite, 4:33.
Julus caeruleocinctus, 5:296; 8:199; 10:445.
 jumping seeds, 4:151.
Kermes galliformis, 12, plate 5, fig. 1.
 lace winged fly, 2:186.
Lachnosterna fusca, 8:175.
 lady bird, Northern, 7:311.
 painted, 2:186.

Figures of (*cont'd*)

lady bird, spotted, 4:83.
 twice stabbed, 2:186; 5:267.
 two spotted, 6:117; 9:306.
 lady bug, convergent, 5:257.
Lagoa opercularis, *see* *Megalopyge*.
Lampronota frigida, 1:145.
 lantern for attracting moths, 1:148.
 larch lappet moth, 4:21.
 larch saw fly, 5:165; 8:168.
Largus succinctus, 2:165.
Lasioptera vitis, 4:64.
 leaf beetle, three lined, 2:133, 134.
 leaf bug, four lined, 1:273; 5:274.
 leather beetle, 4:89.
Lebia grandis, 12:235.
Lecanium juglandis, erroneous reference of *L. prunastri*.
 prunastri (plum tree scale), 11, plate 11.
Lema trilineata, 2:133, 134.
Leptocoris trivittatus, 4:157; 10:434.
Leptodesmus falcatus, 12, plate 15.
Leucania unipuncta, 12, plates 2, 3 and 4, fig. 2.
Lina scripta, 11:182, 183, 184.
Lioderma ligata, 4:25.
Lipura fimetaria, *see* *Aphorura armata*.
 locust, green striped, 2:188; 9:331.
 locust egg *Anthomyia* parasite, 1:182.
 locust mite, 8:180.
 long sting, lunate, 4:39; 8, plate 3.
Lycia cognataria (syn. *Amphidasys*), 2:99, 100.
Lyctus opaculus, 2:130.
Lygaenematus erichsonii (syn. *Nematus*), 5:165; 8:168.
Lygus pratensis, 5:275; 13:356.
Macroductylus subspinosus, 1:228; 8:200.
Maia moth egg belt, 2:75.
Mallota posticata, 1:214, 215.
Mamestra grandis, 5:212.
 picta, 5:207.
Mantis carolina, *see* *Stagmomantis*.
 egg packet, 4:159.
 religiosa, 4:162.
 Manure fly (*Sciara*), 10, plate 1.
 Maple leaf cutter, 5:217.
 Maple tree scale insect, 6:142; 8:178.
Margaronia hyalinata (syn. *Eudiopis*), 11:137.

Figures of (*cont'd*)

- Margaronia nitidalis* (syn. *Eudiotis*), 11:129.
 marguerite fly, 4:77.
 marguerite fly mines, 4:74.
 meal worm, 8:176; 9:308.
 meat fly, blue, 1:170.
Mecyna reversalis, 11:144.
Megalopyge opercularis (syn. *Lagoa*), 4:51, 52, 54.
Megilla maculata, 4:83.
Melanolestes abdominalis, 4:111.
 picipes, 4:110.
Melanoplus femur-rubrum (syn. *Caloptenus*), 1:7; 6:152; 10:441.
 spretus (syn. *Caloptenus*), 1:7; 2:192, 193, 194; 4:25; 10:441.
Melanotus communis, 8:198, 199.
Melittia cucurbitae, *see* *M. satyriniformis*.
 satyriniformis (syn. *M. cucurbitae*), 2:59; 5:155.
 melon aphid, 8:221.
 melon caterpillar, 11:137.
Meromyza americana, 1:223.
Microdon globosus, 2:116.
 mines in columbine leaf, 4:79.
 mite parasite of Angoumois moth, 2:110.
 mole cricket, 6:149.
Monomorium pharaonis, 11:111.
 mosquito, 12:327, 329.
Murgantia histrionica, 1:265.
 mushroom feeding fly, 10:400.
Myrmeleon immaculatus, 7:318; 11:236.
 species, 11: 234, 235, 236.
Mytilaspis pomorum, 11, plate 8, fig. 1.
Necrophorus tomentosus, 5:289.
Nectarophora granaria (syn. *Siphonophora avenae*), 5:247.
Nematus erichsonii, *see* *Lygaeonematus*.
Nemoraia leucaniae, *see* *Winthemia 4-pustulata*.
Neoclytus erythrocephalus, 12, plate 7, fig. 3, 4, 5.
Nephelodes minians, var. *violans* (syn. *N. violans*), 1:106; 4:54.
 violans, *see* *N. minians* var.
Neuronia pardalis, 12:299.
Noctua clandestina (syn. *Agrotis*), 8:199.
Notolophus leucostigma (syn. *Orgyia*), 2:71, 72; 4:48.
 nozzle, insecticidal, 1:31.
 oak plum gall, 4:43.

Figures of (*cont'd*)

- Oberea bimaculata*, 5:232.
Ocneria dispar, *see* *Porthetria*.
Odontota dorsalis, 12, plate 8, fig. 2, 3.
 oil beetle, 6:131.
 onion fly, 1:169, 174, 175, 176.
Opsicoetus personatus (syn. *Reduvius*), 4:112.
Orgyia leucostigma, *see* *Notolophus*.
Orphulella pelidna (syn. *Stenobothrus maculipennis*), 2:196.
Orthezia cataphracta (syn. *Dorthezia*), 1:286.
Orthosoma brunneum, 4:22.
Otiorhynchus ovatus, 10:417.
 owl beetle, 4:141.
 ox gad fly, 6:116.
 ox warble fly, 6:112, 113, 114.
Oxyptilus periscelidactylus, 12: plate 4, fig. 3, 4, 5; plate 5, fig. 8, 9.
Paleacrita vernata (syn. *Anisopteryx*), 4:140; 5:258.
Panorpa rufescens, 10:463 and plates 3, 4.
Papilio cresphontes, *see* *Heraclides*.
 pea weevil, 7:261, 280.
 peach tree borer, 8:184.
 peach twig borer, 1:152.
 pear midge, 8:142, 147, 148.
 pear tree *Psylla*, 9:327, 328.
 pears infested (pear midge), 8:144, 145; 10:386.
Pegomyia betarum (syn. *Chortophila*), 1:208.
 vicina, 1:209.
Pemphigus rhois, 12: plate 14, fig. 1.
Pemphredon concolor, 8:163.
Pennsylvania soldier beetle, 4:86; 9:344.
Pentatoma juniperina, 10:431.
Penthina nimbatana, 5:214, 215.
Peridroma saucia (syn. *Agrotis*), 5:201, 204.
Phobetrus pithecium, 5:184, 188, 189.
Phora agarici, 10, plate 2.
Phorbia ceparum, 1:175.
 cilicrura, *see* *P. fusciceps*.
 fusciceps (syn. *Anthomyia zaeae*, *Hylemyia deceptiva*, *Phorbia cilicrura*), 1:182, 200, 201.
Phorodon humuli, 8:208.
Phylloxera vitifoliae, 1:4; 9:347.
Phytomyza chrysanthemi (*P. lateralis* in error), 4:77; 7:244; mines of, 4:74.

Figures of (*cont'd*)

Phytomyza lateralis, erroneous reference of *P. chrysanthemi*.
 Phytonomus punctatus, 1:247, 248, 250; 5:272; fungus attacked larva, 5:273; 7:315.
 Phytoptus pyri, 10:458.
 pickle caterpillar, 11:129.
 pigeon Tremex, 4:38.
 pine leaf Chermes, 2:182.
 pine leaf scale insect, 5:266.
 pine weevil, 4:24; 9:344.
 Piophilha casei, 12:231.
 Pirates biguttatus, 4:112.
 Pissodes strobi, 4:24; 9:344.
 Plagionotus speciosus (syn. Glycobius), 8:203; 12, plate 7, fig. 1.
 plum curculio, 7:289.
 Plusia brassicae, 2:90.
 Podisus spinosus, 6:137.
 Poecilopsus lineatus, 1:273; 5:274.
 Pollenia rudis, 9:309.
 Polydesmus complanatus, 12:301.
 poplar saw fly, 4:45, 46.
 Porthetria dispar (syn. Ocneria), 7:302.
 potter wasp, 6:109.
 Prionidus cristatus (syn. Prionotus), 4:113; 6:138.
 Psylla pyricola, 9:327.
 Ptinus brunneus, 4:90.
 Ptyelus lineatus, 4:120.
 Pulvinaria innumerabilis, 6:142; 8:178; 11, plate 10, fig. 1, 2, 3, 4.
 punctured clover leaf weevil, 5:272.
 Pyralis costalis, 11:148; 13:358.
 Pyrophorus noctilucus, 11:175.
 Pyrrharctia isabella, 7:226.
 raspberry cane borer, 5:232.
 raspberry geometer, 8:130.
 raspberry gouty gall, 6:124.
 red spider, 5:287.
 Reduvius personatus, *see* Opsicoetus.
 rhinoceros beetle, 5:229; 7:247, 248, 250.
 Rhyssa persuasoria, 8:165.
 Rocky mountain locust, 1:7; 2:192, 193, 194; 4:25; 10:441.
 root fly, 1:192.
 rose beetle or bug, 1:228; 8:200. Fuller's, 2:143.
 rose leaf tyer, 5:214.
 San José scale, 11, plates 12, 13, 14.
 Sannina exitiosa, *see* Sanninoidea.

Figures of (*cont'd*)

Sanninoidea exitiosa (syn. Sannina), 8:184.
 Saperda candida, 5:270; 7:313. tridentata, 12, plate 7, fig. 4, 5; plate 8, fig. 2.
 Schizoneura lanigera, 5:160.
 Schoturus nivicola, 11:251, 252.
 Sciara agraria, 12, plate 6, fig. 5, 6, 10.
 caldaria, 10:403; plate 1, fig. 5, 7, 10.
 coprophila, 10:394, 395, 403; plate 1, fig. 1-4, 6, 8, 9, 11.
 fulvicauda, 12, plate 6, fig. 7, 13.
 multiseta, 12, plate 6, fig. 1, 2, 11.
 pauciseta, 12, plate 6, fig. 3, 4, 12.
 prolifica, 12, plate 6, fig. 8, 9.
 Scolytus rugulosus burrows, 4:104.
 Scutigera forceps (syn. Cermatia), 4:129; 7:325.
 seed corn fly, 1:200.
 Semiotellus chalcidiphagus, 4:33.
 Sesia tipuliformis (syn. Aegeiria), 2:60.
 seventeen year Cicada, 2:168, 173, 174; 7:297; 10:422, 423.
 sexton beetle, 5:289.
 Sinoxylon, red shouldered, 2:130.
 Sinoxylon basilare, 2:130.
 Siphonophora avenae, *see* Nectarophora granaria.
 Sitodrepa panicea, 4:90; 7:311.
 Sitotroga cerealella, 2:103, 105; 10:379.
 Smynthurus hortensis, 2:207.
 soldier bug, spined, 6:137.
 Sphenophorus sculptilis, 1:255.
 Spilosoma virginica, 7:305.
 spittle hopper, lined, 4:120.
 sprinkler for paris green water, 1:29.
 squash bug, 2:165; 8:203.
 squash vine borer, 2:59, 60; 5:155.
 Stagmomantis carolina (syn. Mantis), 4:159, 161.
 stalk borer, 1:113; 8:191.
 Stenobothris maculipennis, *see* Orphulella pelidna.
 sugar maple borer, 8:203.
 Synchlora glaucaria, 8:130.
 Syrphus fly, 2:186; 7:230, 231, 232.
 Tabanus bovinus, 6:116.
 tarnished plant bug, 5:275; 13:356.
 Telephorus bilineatus, 8:173.

Figures of (*cont'd*)

Tenebrio molitor, 8:176.
obscurus, 9:308.
Tenthredo rufopectus, 13, plate 1, fig. 1.
Tetranychus telarius, 5:287.
Tettix granulata, 2:196.
Thalessa lunator, 4:36, 39; 8, plate 3.
 thousand legged worms, 5:296; 8:199; 9:372.
Thrips tabaci, 11, plate 15.
Tmetocera ocellana, 7:306.
Tolyte laricis, 1:89, 90, 91, 92, 93, 95, 96; 4:21.
 tortoise beetle, golden, 6:126.
 tree hopper, two spotted, 1:282.
 tree protector, 2:9.
Tremex columba, 4:38; 8:165.
Tribolium ferrugineum, 2:137.
Trichogramma minuta, 2:220.
Trombidium locustarum, 8:180.
Trypeta pomonella, 2:119, 120.
 tussock moth, white marked, 2:71, 72.
Tyroglyphus heteromorphus, 11, plate 16, fig. 2-10.
lintneri, 10:452.
siro, 5:292.
 Upper austral life zone, 11, plate 4.
Urocerus albicornis, 13, plate 1, fig. 3.
flavicornis, 13, plate 1, fig. 4.
 vagabond Crambus, 1:134.
 violet *Nephelodes*, 1:100.
 water bug, giant, 4:145.
 wheat midge, 1:6.
 wheat stem fly, 1:223.
 wheat stem maggot, 1:222.
 wheel bug, nine pronged, 4:113; 6:138.
 white scale insect, 5:278; 8:214; 11, plate 9, fig. 2.
Winthemia 4-pustulata (syn. *Nemoraia leucaniae*), 1:146.
 wire worm, 8:199.
 woolly bear, yellow, 7:305.
Xylotrechus colonus, 4:93, 94.
Zerene catenaria, *see* *Cingilia*.
filamentaria, *Nematocampa*, *see* *Ania limbata*.
Filaria sanguinis-hominis, cause of elephantiasis, 12:331, 332; immature forms in mosquitos, 12:331.
fimbrialis, *Pyrallis*, *see* *P. costalis*.
finetaria, *Lipura*, *see* *Aphorura armata*.
Podura, *see* *Aphorura armata*.
finetarius, *Aphodius*, 3:103; 7:312, 379, 383; 9:440; 13:373⁴; 14:374⁵.

finitima, *Hadena*, *see* *Xylophasia*.
Xylophasia (syn. *Hadena*), 10:482.
 Fir, *see* *Balsam*.
 Fir saw fly, 1:42.
 Fire flies, 4:85; 8:174.
 "Fire worm" (canker worm), 12:312, 350; 14:392¹.
 Fisher, Jabez, cited, 9:318.
 Fishes, mosquitoes food for, 12:330, 335; crustaceans food for, 13:351³.
 Fisk, H. L., insects from, 5:325.
fissilis, *Euschistus*, 10:519; 13:374⁴.
Melanotus, 7:377; 14:322².
Fissipennes (Pterophoridae), 12:219.
 Fitch, Asa, cited, 1:87, 172, 184, 191, 194, 201, 202, 227, 239, 253, 271, 281; 2:68, 102, 125, 132, 148, 168, 180, 203; 3:133; 4:20, 27, 114, 158; 5:184, 192, 215, 227, 234, 242, 246, 253; 6:147; 7:255; 8:152, 153; 9:317; 10:387, 408, 477; 11:109, 203, 241, 248, 251; 12:218, 237, 243, 264, 290; quoted, 11:202; 12:221, 267, 290-91, 301, 302; referred to, 1:221; 12:220, 222, 244, 246, 265, 277, 286, 292, 301, 311; *Catalogue of the Homoptera of the state of New York*, 9:381-413; 14:384¹; *Insects of New York, Report* cited, 1:87, 172, 184, 194, 201, 202, 221, 227, 239, 281; 2:68, 102, 125, 168, 180, 203; 3:133; 4:20, 27, 114; 5:184, 192, 215, 227, 246, 253; 8:152, 153; 9:317; 10:408, 477; 11:109, 203, 248; 12:218, 243, 264; 13:338³, 342²; *Winter insects of eastern New York* cited, 2:203; republished, 2:235-44; *Entomological labors*, 1:322-25; papers, 1:297-322; reports, 1:291-97.
 Fitch, F. A., insects from, 10:510.
fitchella, *Lithocolletis*, 1:156.
fitchii, *Lecanium*, 10:518.
Promachus (syn. *P. apivorus*), 1:318.
 Flachérie, 2:40; 4:177, 178.
 Flat flies (*Homalomyia* species), 1:171.
flava, *Drosophila*, 1:220.
Phora, 10:403.
Phytomyza, 4:79.
flavago, *Gortyna*, 1:115.
flavicauda, *Exorista*, *see* *Belvoisia unifasciata*.
flaviceps, *Lauxania*, 9:462.
Phytomyza, 4:79.
flavicinctus, *Cirrospilus*, 1:159, 160.
flavicollis, *Clastoptera*, sub species, 9:394.
flavicornis, *Urocerus*, 13:339³, 342², 342⁶.

- flavilineata, Gypona, 9:397, 410.
 flavimanus, Bruchus *Bohem.*, see B. *affinis* *Froelich*.
 flavipes, Anthrenus, see A. *scrophulariae* var.
 Eristalis, 7:229.
 Termes, 9:454; 11:272; 14:312⁶.
 flaviventris, Janus, see J. *integer*.
 Phylloecus, see Janus *integer*.
 flavizonatus, Ichneumon, 12:211
 flavopicta, Orchesella, 2:207.
 Flax, army worm feeding on, 12:206.
 Flea, dog, 12:361.
 field, 11:272.
 garden, 1:322.
 Flea beetle, broad striped, 4:155; 14:358².
 red footed, 11:269; 14:357⁵.
 striped, 1:60, 310; 3:99; 5:301; 9:375; 14:353⁹.
 Flea beetles, attacking alder, 4:96-101; attacking apple trees; 4:101-3, 196; attacking beets, 9:375; reference, 1:316, 322; remedies, 1:40, 45, 61, 65; 3:135; 4:101-3; 14:372¹; species treated of, 4:96-103, 155-56; 7:353.
 Flea family, 1:79.
 Fleas, 1:62, 74; 9:352-53; 10:498; 12:323; resistance to insecticides; 9:352-53; 14:383⁶.
 Flesh flies, 1:69.
 Fletcher, James, cited, 4:35; 5:164, 216; 7:280, 324; 8:133; 10:378, 433, 454; 11:152, 233, 250; 12:192, 238; 13:353⁶; insects from 8:298; 9:462; 10:510; 13:372⁵; quoted, 11:170-71; referred to, 11:119, 170.
 fletcherella, Coleophora, 9:374; 10:510; 11:267; 12:307, 360.
 flexuosa, Heterogenea (syn. H. *tetrala*), 11:264.
 Flicker, see Woodpecker, golden winged.
 Flies, biting, 5:221; 8:126, 193-96, 297.
 golden eyed (Chrysopa), 1:177.
 Flint, O. Q., insects from, 11:286.
 floccosa, Chortophila, see Phorbia *brassicæ*.
 Phorbia, see P. *brassicæ*.
 floralis, Musca, see Phorbia *brassicæ*.
 florea, Cucullia, 9:456; 14:316⁶.
 floricola, Homalomyia, see H. *fuscula*.
 Florida agricultural experiment station, *Bulletin* cited, 11:127, 135, 233; 13:353⁸.
 floridana, Cermatia, see Scutigera *forceps*.
 Scutigera, see S. *forceps*.
 floridensis, Ceroplastes, 11:271.
Floris's exchange cited, 10:498, 502; 14:383¹, 385⁶.
 Flour, insects infesting;
 Silvanus *surinamensis*, 12:361.
 Sitodrepa *panicea*, 4:92.
 Tyroglyphus *siro*, 14:316⁵.
 graham, insects infesting;
 Calandria *granaria*, 12:362.
 Tribolium *confusum*, 12:362.
 Flour mite, 3:100; 8:293.
 Flour paste fly, 6:116, 177; 14:326⁵, 367⁸.
 Flower beetles, 1:234, 236.
 Flower chafer, trim, 5:320
 Flower cricket, 1:332; 4:147; 5:302, 310; 10:486, 519; 11:271, 288; 14:353⁷, 358⁸, 377⁶.
 Flower flies, 1:168, 211; 5:284; 7:326.
 Floyd, Augustus, insects from, 4:205, 206; 6:188; 9:463; 11:286.
 Fluted scale, 4:187, 188, 202.
 fluviata, Camptogramma, see Percnoptilota.
 Percnoptilota (syn. Camptogramma, Plemyria), 9:456; 10:483.
 Plemyria, see Percnoptilota.
 Fly, Buffalo, 5:220, 226; 7:333; 9:444.
 Fly weevil, 2:105; 10:378, 380.
 Foerster, Arnold, cited, 9:317.
 foliacea, Haltica, 11:269.
 Fonda, John, insects from, 10:519.
 Forbes, S. A., cited, 1:99; 2:69, 149; 4:80, 155; 7:321; 10:388; 11:178, 250; 12:191, 243; 13:352⁵; quoted, 12:245; reference, 13:354⁵, 355⁴.
 forbesi, Aspidiotus, 11:271.
 Forbush, E. H., and Fernald, C. H., *Gypsy moth: report of the work of destroying the insect in the commonwealth of Massachusetts*, * * abstract from 12:351; 14:392⁵; cited, 12:193.
 forceps, Calista, see Scutigera.
 Cermatia, see Scutigera.
 Scutigera, see Scutigera *forceps*.
 Forel, August, referred to, 12:182.
 Forest flies, 5:245; 7:229.
 Forest moth, 1:300.
 Forest tent caterpillar, depredating on apple trees, 1:328; 3:91-93, 147; on maple trees, 6:106, 166; muscardine destroying, 4:178; reference, 2:83; 4:204; 10:495; 11:265; 13:369⁸; 14:344⁹, 359⁶; remedies, 3:93.
 Forester, eight spotted, 1:33; 14:362⁹.

- forficatus, Lithobius, (syn. *L. americanus*), 4:208.
 Forficula, 4:167.
 auricularia, 11:272.
 Forficulidae, 1:79; 7:238.
 Formica exsectoides, 12:182; 14:399². See also *F. rufa*.
 fusca, 4:181.
 nigra, see *Lasius*.
 noveboracensis, see *Camponotus herculeanus*.
 obscuripes, 12:182.
 pennsylvanica, see *Camponotus herculeanus* var.
 pharaonis, see *Monomorium*.
 rufa (probably *F. exsectoides*), 2:117, 186; 11:115, 273; 12:181, 182; 14:399².
 subsericea, 12:182; 14:399².
 Formicaleo species (*Myrmeleon*), 11:240.
 formicarius, Clerus, 10:500; 14:384⁷.
 Cylas, 3:141, 154; 14:347².
 Formicidae, 10:365-69; 11:115-16; 12:181, 182.
 formosa, Plusia, 10:377.
Fort Plain free press cited, 6:167; 14:359⁹.
 Fossil insects, 4:170, 176.
 fossor, Aphodius, 3:103; 7:379.
 Foster, Mrs W. W., insects from, 13:372².
 Four o'clock, Thrips tabaci on, 11:245.
 foveatus, Hadrobregmus, 4:20, 22.
 Fowler, E. G., insects from, 3:140.
 Fowls, domestic, feeding on army worm, 12:208; on Cicada pupae, 12:288.
 fractilinea, Haden, 10:482.
 fragariae, Analcis, see *Tyloderma*.
 Tyloderma (syn. *Analcis*), 1:155; 10:418.
 fragilis, Campodea, 1:101.
 fraterna, Lachnosterna, 1:330; 11:268.
 Parasa, see *P. chloris*.
 Tetrastichus (syn. *Trichogramma*), 1:303; 2:79.
 Trichogramma, see *Tetrastichus*.
 fraternis, Camaronotus, see *Pilophorus*.
 Pilophorus (syn. *Camaronotus*), 2:186.
 fraternus, Eumenes, 2:231; 5:268; 6:109-11; 13:371⁹; 14:334⁸, 367⁷.
 Fraxinella, Heraclides crespontes (syn. *Papilio*) on, 9:337.
 Fraxinus, see *Ash*.
 sambucifolia, see *Ash*, black.
 Fremd, Charles, Gossyparia in nursery of, 12:293.
 French, G. H., cited, 1:99, 111, 116; 2:57, 69, 102; 4:57; 5:193, 201, 207; 7:225; 8:129; 11:126, 146; 12:183, 218; 13:343⁹; *Destructive insects of Victoria* cited, 10:454.
 French, G. S., insects from, 9:462.
 Frey-Boll, cited, 11:160.
 frigida, Coelopa, 4:174.
 Lampronota, 1:145.
 Lissonota, see *Lampronota*.
 frit, Oscinis, 1:225.
 Frog hoppers, 5:245.
 Frog spittle insects, 1:285; 4:120; 5:245.
 Frogs feeding on army worm, 12:209.
 frontalis Dendroctonus, 10:500; 14:384⁷.
 Systema, 4:156; 9:297, 343-44, 422, 463; 10:498; 14:383⁹.
 Frontina archippivora (syn. *Masicera*), 8:238.
 Frost, H. L. & Co., spraying trees, etc., 12:264.
 frugiperda, Laphygma, 1:328; 11:265.
 Fruit blossoms injured by Thrips, 11:249.
 Fruit crops, large areas devoted to, 4:184-85.
 Fruit growers' association of Ontario, *Report* cited, 10:454; 12:218.
 Fruit insects, publications on, 4:191-92.
 Fruit insects, see *Saunders, Insects injurious to fruit*.
 Fruit tree leaves, army worm feeding on, 12:206.
 Fruit trees, spraying of while in blossom, 11:117-24; 14:381⁷, 395⁶.
 frumentaria, Phlaeothrips, 11:246.
 fucata, Sciara, 5:265; 10:388.
 fucosa, Hypoprepia, 12:360.
 fugitiva, Limneria (syn. *Banchus fugitivus*), 1:320; 2:41; 3:90, 140, 150; 5:198; 7:381; 14:346⁴, 352³.
 fugitivus, Banchus, see *Limneria fugitiva*.
 fulgida, Euphoria, 8:236; 14:372⁷.
 Fulgoridae, 1:284-300.
 fuliginosa, Molobrus, see *Sciara*.
 Sciara (syn. *Molobrus*), 10:387.
 Fuller, A. S., cited, 1:239; 5:234; 7:255; insects from, 3:140, 141.
 fulleri, Aramigus, 2:142-44; 4:193; 5:154, 311, 325; 14:337⁷, 342⁷, 347⁷.
 Fuller's rose beetle, see *Aramigus fulleri*.
 fulvibarbis, Calliphora, 1:299.
 fulvicauda, Sciara, 12:227-28, 361.
 fulvicollis, Scepis, 9:456; 14:313¹.
 fulvicosta, Callimorpha, 11:264.

- fulvidorsum, Jassus, *see* Phlepsius.
 Phlepsius (syn. Jassus), 9:402, 410.
 fulvipes, Chalcis, erroneous reference of *C. ovata*.
 Cis, erroneous reference of *C. fuscipes*.
 Eurytoma, *see* Isosoma hordei.
 Merisus (syn. Pteromalus), 1:307; 11:165.
 Pteromalus, *see* Merisus.
 fumans, Brachinus, 6:170; 14:361^o.
 Fumea, 1:84.
 fumiferana, Tortrix, 4:20, 22; 10:483.
 Fumigation for greenhouses, 12:303.
 Fumitory, climbing, Tetranychus telarius on, 5:288.
 funebris, Drosophila, 1:218, 220.
 Eurytoma, 2:2.
 funeralis, Acronycta (*A. americana* in error), 2:77; 9:455; 10:482; 14:313⁴, 316^o.
 Desmia (syn. *D. maculalis*), 1:86; 10:483.
 Nisoniades, *see* Thanaos.
 Thanaos (syn. Nisoniades), 1:333, 334, 336; 7:375; 14:321¹.
 Fungi, insects on;
 Coccinellidae, 4:81; 7:217.
 Exechia species, 8:172.
 Fungicides and insecticides combined, 7:345; 9:416.
 fungorum, Exechia, 8:172; 10:392.
 Fungus attacking Cicada, 12:289;
 attack on Musca domestica, 5:168; on curculio, 1:308.
 Fungus feeding fly, 2:13.
 Fungus gnats, 8:109, 172, 297; 10:389, 392, 397, 399, 447, 497; 12:223-28.
 fur, Ptinus, 2:138; 4:93.
 Fur moth, 4:140.
 furcatellus, Crambus, 1:150.
 furcilla, Panthea (syn. Platycerura), 9:450, 455; 14:313³.
 Platycerura, *see* Panthea.
 furcillata, Physocephala, 5:285.
 furfurus, Chionaspis, 1:331; 4:208; 5:300, 326; 8:293, 299; 9:440-41, 464; 10:518; 11:202-3, 271, 288, 12:348; 13:368⁵, 374⁹; 14:316⁵, 316⁷, 353², 375³, 391⁵, 397⁸.
 furnorum, Thermobia (syn. Lepisma domestica), 4:179; 6:190; 10:519.
 Furneaux, W., *Butterflies and moths* (British) cited, 12:221.
 furvana, Tortrix, *see* Cacoecia argyrospila.
 fusca, Bolitophila, 10:392.
 Formica, 4:181.
 Lachnosterna, *see* L. fusca.
 Spilomyia, 5:284; 7:229.
 fuscatus, Polistes, *see* P. pallipes.
 fusciceps, Aricia, *see* Phorbia.
 Phorbia (syn. Anthomyia radicum var. calopteni; *A. zeae*, Aricia, Hylemyia deceptiva, Phorbia cilicrura), 1:171, 180, 181-84, 199-201; 4:179; 10:516; 14:335⁸.
 fuscipes, Cis (*C. fulvipes* in error), 9:462.
 fuscisquamellus, Crambus, 1:151.
 Fusicladium dendriticum, *see* Apple scab.
 pyrinum, *see* Pear scab.
 Fusicladiums, 10:453.
 fuscula, Homalomyia (syn. *H. cilicrura*, *H. floricola*), 1:184.
 futilalis, Botys, *see* Pyrausta.
 Pyrausta (syn. Botis, *B. erectalis*), 11:138-42; 12:357; 14:395⁷.
 Fyles, T. W., cited, 5:164; 8:160; 12:193, 238; insects from, 7:381.
 Gaberasa ambigualis (syn. Tortricodes bifidalis, *T. indivisalis*), 7:375; 14:321¹.
 Gad fly, 1:299.
 Gade, George, cited, 4:36.
 Galasa rubidana (syn. Cordylopeza nigrinodis), 10:483.
 Gale, R. F., insects from, 11:288.
 galeata, Archasia (syn. Smilia auriculata), 9:389, 410.
 Galeruca calMariensis, *see* Galerucella luteola.
 cavicollis, *see* Galerucella.
 rufosanguinea, 11:197.
 sanguinea, *see* Lochmaea crataegi.
 xanthomelaena, *see* Galerucella luteola.
 Galerucella cavicollis (syn. Galeruca), distribution, 11:197; feeding on cherry, 11:197; feeding on chestnut, 11:198; probably single brooded, 11:197-98; reference, 11:286; 12:357; 14:395⁸; resemblance to other species, 11:197, 198.
 luteola (syn. Galerucella and Galeruca xanthomelaena), 9:297; 13:360⁶-61⁶, 368^o, 373⁸; 14:332⁵, 340⁶, 341⁷, 344⁵, 348⁸, 350⁵, 353⁴, 353⁵, 354¹, 357⁹, 362⁹, 372⁷, 388², 389⁵, 390³, 391⁸, 392⁴, 395⁸, 398¹, 399⁶, 400².
See also Elm leaf beetle.
 xanthomelaena, *see* G. luteola.
 Galerucidae, 1:243.
 Gall flies, 11:281.
 Gall insects, 2:31; 8:255.

- Gall mites, 5:290; 7:365; 9:377, 442; 10:456-57.
 gallaesolidaginis, Gelechia, 2:39.
 Gallatin, J. N., insects from, 13:371⁶.
 galliformis, Kermes, 12:316-17, 356, 363; 14:395².
 Gallinipper, 12:321.
 Galls, 5:173, 308.
 Gamasidae, 5:318; 10:451.
 Gamasus, 3:134, 153; 5:289; 9:464.
 crassipes, 11:259.
 juloides, 3:134.
 longipalpoides, 11:259.
 obovatus, 3:134; 10:451.
 species, 11:255.
 gamma, Plusia, 1:119.
 Gammaridae, 9:348.
 Gammarus fasciatus, 7:373; 11:288.
 Gapes, 14:343⁷, 343⁸, 345⁷, 346⁵.
 Garden and forest, cited, 7:242; 8:141; 9:318; 10:484; 11:206, 212, 232, 233; 12:243, 268, 292, 303; 13:353¹, 353⁷; 14:377².
 Garden leek, Thrips tabaci on, 11:245.
 Garden slugs, 11:274; 14:387⁶.
 Gardener's chronicle and agricultural gazette cited, 1:172; 4:114, 151, 7:242; 12:247; quoted 12:248.
 Gardener's magazine cited, 1:172.
 Gardener's monthly and horticulturist cited, 5:315; 10:453; 14:338⁶.
 Gardenia, *see* Cape jessamine.
 Gardening, abstracts from, 10:484, 487, 489, 494, 496, 499, 500, 501, 504; 11:275, 276, 280, 281; 12:347, 348, 349, 351; cited, 11:109; 12:238; 14:377¹, 378², 378⁹, 380⁵, 380⁶, 281³, 381⁶, 384³, 384⁴, 384⁶, 385³, 386³, 386⁴, 386⁵, 388², 388³, 388⁵, 390¹, 390², 390⁵, 391³, 391⁵, 391⁶, 391⁸, 392⁶.
 Garfield, C. W., cited, 1:184, 194.
 garganicus, Chion (syn. Cerasphorus balteatus), 1:330; 4:95; 11:268.
 Gargara genus, 9:388.
 Garlock, W., insects from, 7:382.
 Garman, Harrison, cited, 7:231; 10:453; 11:250; 12:193, 243, 273; 13:353⁹.
 Garrahen, —, insects from, 9:464.
 Garscum, I. A., insects from, 9:463.
 Gartered plume moth, 8:284; 12:218-22, 13:372⁵; 14:371⁷.
 Garth, D. J., insects from, 4:207; 5:325; 8:297, 299; 9:464; 12:363.
 garzoni, Ecpantheria (syn. E. sennettii), 5:317; 14:339⁸.
 Gastroidea polygoni, 8:298; 10:519.
 Gastropacha americana, *see* Phyllo-desma.
 californica, 11:265.
 laricis, *see* Tolype.
 velleda var. minuta, *see* Tolype laricis.
 Gastrophilus equi (syn. Oestrus), 1:299.
 nasalis (syn. Oestrus), 1:299.
 Gaubil, J., *Catalogue synonymique des Coléoptères D'Europe et D'Algerie*, cited, 7:285.
 Gazania, Phytomyza chrysanthemi (P. lateralis in error) mining, 4:76.
 Geddes, George, cited, 1:253.
 Gelechia abietisella, 4:20, 22, 59, 60.
 cerealella, *see* Sitotroga.
 gallaesolidaginis, 2:39.
 intermediella, 11:267.
 pinifoliella (G. pinifoliae in error), 1:156.
 robinella (syn. Anacamptis), 1:309.
 gelechiaae, Apanteles, *see* Microgaster.
 Microgaster (syn. Apanteles), 2:39.
 var. carinata, Microgaster (syn. M. carinata), 2:39.
 Pteromalus, 2:110.
 gemellatus, Cathartus (syn. Silvanus cassiae), 9:308, 462.
 geminata, Solenopsis (syn. S. xyloni), 10:366; 11:264.
 Stelidota, 11:285.
 geminatella, Lithocolletis, *see* Ornix.
 Ornix (syn. Lithocolletis, O. prunivorella), 1:330; 11:267.
 geminatus, Paniscus, 8:238.
 Smerinthus, 9:451; 11:264; 14:312².
 var. jamaicensis, Smerinthus, 9:451.
 var. ocellatus, Smerinthus, 9:451.
 gemmata, Mantis, 4:162.
 Gemminger, Max, and Harold, Edgar, *Catalogus Coleopterorum hucusque descriptorum synonymicus et systematicus*, cited, 1:233.
 generosa, Cicindela, 9:462.
 geniculus, Crambus, 1:151.
 Genista, insects injurious to:
 Mecyna polygonalis, 11:142.
 reversalis, 10:515; 11:142.
 Genista caterpillar, 11:142-45; 12:357; 14:395⁸.
 Genista moth, 11:144.
 gentilis, Stibeutes, 12:211.

- Gentry, T. G., cited, 13:343⁶; reference, 13:350⁸.
- Geoffroy, E. L., *Histoire abrégée des insectes qui se trouvent aux environs de Paris* cited, 12:292.
- Geological and natural history survey of Minnesota, *Bulletin* cited, 5:246; 12:290.
- Geological survey of Canada, *Report* cited, 10:388; *Report of progress* cited, 10:388.
- Geometra niveosericearia, *see* Ennomos subsignarius.
- Geometridae, dates of collecting, 10:483; depredating on the apple, list, 1:329; 11:266; publications on, 4:173; reference, 1:113; 2:91, 95, 228; 5:202; 10:494, 502; sense organs in, 1:71; species treated of, 2:97-101; 5:258-60.
- Georgia agricultural experiment station, *Bulletin* cited, 11:127, 135.
- Geotrypes tityus, *see* Dynastes.
- Geranium, insects, etc., injurious to; Aphis, 1:49.
- Aramigus fulleri, 2:143.
- Julus caeruleocinctus, 5:307, 326; 10:446.
- Leptocoris trivittatus, 10:438.
- Plusia rogationis (syn. P. dyaus), 2:94, 228; 14:333¹.
- Poecilocapsus lineatus, 1:276, 277.
- germanica Ectobia, *see* Phyllodromia.
- Panorpa, 10:465.
- Phyllodromia (syn. Ectobia), 1:62; 4:131; 7:326; 8:300.
- Vespa, 10:405.
- Gervais, Paul, *Aptères* cited, 3:133; 4:128.
- Getter, H. C., insects from, 4:206.
- Gettys, S. F., insects from, 8:299.
- gibbosa, Lachnosterna, 9:335.
- Nadata (syn. N. behrensi), 8:296; 9:450, 456; 13:371⁹; 14:313⁵.
- gibbus, Zabrus, *see* Z. tenebrioides.
- gigantea, Smicra, *see* Phasgonophora sulcatus.
- giganteus, Thelyphonus, 6:190.
- gigas, Cebrio, 3:101.
- Urocerus, 4:95.
- Gilbert, H. R., cited, 1:87.
- Gillette, C. P., cited, 10:433, 453; 11:152, 242; 12:193; 13:353⁸.
- Gillette, C. P. and Baker, C. F., *Hemiptera of Colorado* cited, 10:433; 13:353⁸.
- Gillis, L. N., insects from, 9:462, 464; 10:511.
- Ginger, Sitodrepa panicea in, 4:92.
- giraudii, Sciara, 5:265.
- Gissler, C. F., cited, 9:307.
- glaberrimum, Orchelimum, 11:271.
- glabra, Oscinis, 1:225.
- Gladiolus, corn worms in stems of, 1:120.
- glandulosus, Cynips, 4:44.
- glaucaria, Aplodes, *see* Synchlora.
- Synchlora (syn. S. albolineata, Aplodes rubivora), 8:105, 129-33, 285; 10:497; 14:372³, 382².
- glaucinalis, Pyralis, 11:148.
- Glaucopidae, 2:214.
- glaucus, Jasoniades (syn. Papilio turnus), 1:327; 4:136; 7:219; 10:507, 519; 11:264; 12:307; 14:309⁴.
- Gleditschia triacanthos, *see* Locust, honey.
- Glens Falls republican cited, 3:145; 14:344⁵.
- globosus, Aphritis, *see* Microdon.
- Microdon (syn. Aphritis, Scutelligera ammerlandia), 2:116-17; 4:174; 9:313; 14:342⁶.
- Mulio, *see* Microdon.
- Glover, Townsend, cited, 1:81, 116, 152, 172, 191, 227, 233, 239, 253, 264, 271, 281; 2:102, 126, 165, 180, 203; 4:35, 80, 114, 155, 158; 5:192, 227, 231, 234, 246; 6:147; 7:255; 8:152; 9:317; 10:388, 408, 453; 11:126, 146, 174, 248; 12:233, 235, 267; 13:338⁴, 352¹; *Illustrations of North American entomology—Orthoptera* cited, 2:188; *Manuscript notes from my journal—Cotton insects* cited, 1:116; 2:165; *Diptera* cited, 1:191, 194, 199, 201, 202, 211, 221; 2:111, 116, 117; 4:73; 7:228; 10:388, 405; 12:230, 233; *Entomological index* cited, 1:172, 184; 4:20; *Hemiptera* cited, 1:264, 271; 2:145, 149, 165; 4:107, 156; 10:430, 432.
- Glyceria fluitans, Nectarophora granaria (syn. Siphonophora avenae) on, 5:252.
- Glycobius speciosus, *see* Plagi-notus.
- Glyphe viridascens, 12:210.
- Glyphina, *see* Colopha.
- ulmicola, *see* Colopha.
- Glypta leucozonata, 11:156.
- Glyptoscelis crypticus, 1:331; 11:269.
- Gnat, Buffalo, 5:314.
- gray, 7:364; 11:106; 12:307.
- Gnats, 1:40, 78, 168; 4:190.
- Goding, F. W., cited, 12:191.
- Goeze, J. A. E., *Gesch. Ins.* cited, 2:187.
- Goff, E. S., insects from, 4:207, 208; 5:325, 326; 7:383; 12:361.
- Gold fringe moth, 11:145-51.

- Golden rod, insects on;
Chaulionathus pennsylvanicus, 4:86.
Epicauta pennsylvanica, 6:135.
Euphoria inda, 1:234.
Gelechia gallaesolidaginis, 2:39.
Heliothis armiger, 1:118.
Heodes hypophlaeas (syn. *Chrysophanus americanus*), 5:285.
Lebia grandis, 12:235.
Leptura canadensis, 4:23.
 scalaris, 5:285.
Phymata wolffii (syn. *P. erosa*), 3:107, 109.
 Syrphidae, 7:229; 11:106.
Trirhabda canadensis, 4:142.
 Goldsmith beetle, 6:183; 11:268; 14:329⁷.
 Gomphina, 4:176.
Gomphocerus infuscatus, see *Chortophaga viridifasciata*.
 radiatus, see *Chortophaga viridifasciata*.
 viridifasciatus, see *Chortophaga viridifasciata*.
Gomphus adelphus, 12:364.
Gonatista grisea (syn. *Mantis phryganoides*), 4:162.
Gonia species, 5:323; 14:342¹.
Goniaphea ludoviciana, rose breasted grosbeak, 2:8.
 goniphora, *Anthomyia*, 1:195.
 goniphorus, *Poecilocapsus*, 11:284.
Gonoptera libatrix, see *Scoliopteryx*.
 Goodenough, Mrs F. L., insects from, 13:374⁴.
 Goodman, C. F., insects from, 11:288.
 Goodwin, F. F., insects from, 7:382; 8:299.
 Gooseberry, insects injurious to;
 Aspidiotus perniciosus, 11:207, 224.
 Dakrura convolutella, 2:10.
 Diastictis ribearia (syn. *Eufitchia*), 12:311, 360.
 Lycia cognataria (syn. *Amphidasys*), 2:101.
 Otiorynchus tenebricosus, 2:52.
 Poecilocapsus lineatus, 1:277; 5:274.
 Systema frontalis, 9:297, 343, 422; 14:383⁹.
 Zophodia grossulariae (syn. *Pempelia*), 8:294; 14:317².
 wild, *Mytilaspis pomorum* on, 11:202.
 Gooseberry blight, 4:185.
 Gooseberry fruit worm, 2:10; 8:294.
 Gooseberry saw fly, 3:88.
 Gooseberry span worm, 12:310-11.
 Gooseberry worm, remedy for, 5:156.
 Gordiaceae, 4:125-27; 8:290.
Gordius (hair worm), 2:230; 8:290; 9:298; 14:333⁸.
 linearis, 4:125.
 longolobatus, 4:125.
 robustus, 4:125.
 varius, 4:125.
gordius, *Sphinx*, 1:327; 11:264.
Gortyna, 1:115, 305; 9:447.
 cataphracta, see *Hydroecia*.
 flavago, 1:115.
 immanis, see *Hydroecia*.
 nebris, see *Hydroecia nitela*.
 nictitans, see *Hydroecia*.
 nitela, see *Hydroecia*.
 purpuripennis, see *Hydroecia u-album*.
 rutila, see *Hydroecia*.
 sera, see *Hydroecia velata*.
 stramentosa, see *Hydroecia*.
 Gossard, H. A., cited, 11:152, 155; 13:353³.
 Gosse, P. H., cited, 7:225.
Gossyparia ulmi, bibliography, 12:292-93; description, 12:295-96; distribution, 12:294; figured, 12:293, 296, plate 12, fig. 2-5; history, 12:293-94; in Albany and vicinity, 12:261-62, 317-18; introduced from Europe, 12:293; life history, 12:296-97; means of distribution, 12:297; natural enemies, 12:298; ravages of, 12:293, 294, 295, 317, 318; reference, 6:189; 10:519; 11:280, 287; 12:356, 363; 14:389⁸, 395², 399⁷; remedies, 12:298.
gossypii, *Aphis* (syn. *A. cucumeris*), 5:306, 326; 8:210, 283; 10:497; 11:168; 14:355⁶, 371⁵, 382⁶.
 Goureaux, cited, 4:73.
 "Gout" in wheat and barley, 1:125.
 Gouty gall beetle, 10:406-7, 516; 12:352; 14:393³.
gracilaria, *Eunemoria*, see *Synchlora glaucaria*.
gracilis, *Crangonyx*, 9:348.
 Graham flour, see *Flour*, graham.
 Grain, insects injurious to;
 Leucania unipuncta, 12:196, 353.
 Nectarophora granaria (syn. *Siphonophora avenae*), 3:112, 150, 154.
 Silvanus surinamensis, 11:267.
 Thrips species, 11:249.
 Grain *Aphis*, abundance in 1861, 5:249; brief notice, 1:313; 2:225; 3:

- 154; detailed account, 5:246-53; different names of, 5:250-51; food plants, 5:252; forms, 5:247-48; injuries, 5:249-50; 7:217-18, 362; 8:222; life history, 3:112-14; 5:251-52; method of attack, 5:248-49; parasites, 5:253; reference, 1:8, 314, 316; 3:84; 4:204; 6:103, 167, 168, 169; 7:331, 335, 360, 383; 8:122; 10:495; 14:317⁹, 331⁷, 346⁹, 352², 359⁸, 360², 361³, 362⁹, 365⁴, 366¹, 380⁹; remedies, 3:114; 5:253.
- Grain beetle, 7:280.
- Grain flies, 1:224.
- Grain moth, Angoumois, 1:299; 10:377-86; 12:351, 393¹.
- Grain weevil, Calandra, 1:226, 304, 308, 316; 5:325; 6:107; 7:217, 362; 8:278; 10:384, 494, 517; 13:367⁶; 14:365⁹, 369³, 380⁸, 397⁶.
- saw toothed, *see* *Silvanus surinamensis*.
- Gramineae, insects injurious to;
- Chloropisca variceps* (syn. *C. prolifica*), 4:69.
- Leucania unipuncta*, 12:205.
- Nectarophora granaria* (syn. *Siphonophora avenae*), 5:247.
- Oscinidae, 4:68.
- graminis, *Cecidomyia*, *see* *Diplosis*.
- Diplosis* (syn. *Cecidomyia*, *C. cerealis*), 1:311, 321.
- graminum, *Drosophila*, 1:218.
- granaria, *Aphis*, *see* *Nectarophora*.
- Bruchus*, *see* *B. obtectus*.
- Calandra* (syn. *C. remotepunctata*) 1:304, 316; 5:325; 6:189; 7:365; 8:278; 9:308; 10:517; 12:362; 14:367⁵, 369⁴.
- Nectarophora* (syn. *Aphis*, *A. cerealis*, *A. hordei*, *A. avenae*, *Siphonophora*, *S. avenae*), 1:313, 316; 2:225; 3:112-14, 150, 154; 5:246-53; 6:167; 7:217-18; 8:222, 295; 14:317⁷, 317⁹, 318³, 325¹, 331⁷, 345⁹, 346⁹, 352², 359⁸, 360², 361³, 362⁹, 365⁴, 371², 380⁹; *See also* Grain *Aphis*.
- Siphonophora*, *see* *Nectarophora*.
- granarius, *Bruchus* *Linn.*, *see* *B. rufimanus Bohem.*
- Oscinis, 1:225.
- grande, *Isosoma* (syn. *I. tritici Riley*), 4:30, 32.
- grandis, *Arma*, *see* *Podisus cynicus*.
- Hadena*, *see* *Mamestra*.
- Lebia*, *see* *Lebia grandis*.
- Mamestra*, 5:210-13; 10:482; 14:369⁷.
- granella, *Alucita*, *see* *Sitotroga cerealella*.
- granella, *Oecophora*, *see* *Sitotroga cerealella*.
- Tinea*, *see* *Sitotroga cerealella*, 1:299.
- granellus, *Ypsolophus*, *see* *Sitotroga cerealella*.
- Grange visitor* cited, 7:256.
- grantii, *Dynastes*, 5:227; 8:252.
- granulata, *Tettix*, 2:197.
- granulatus, *Anametis* (syn. *A. grisea*), 11:269.
- Grape berry moth, 9:364.
- Grape curculio, 8:286, 299; 9:364, 365; 10:498; 14:372⁸, 383⁷.
- Grape leaf folder, 1:86.
- Grape leaf galls, 1:321.
- Grape seed fly, 4:33, 7:373, 374; 8:292; 14:316³, 316⁸, 320³, 321².
- Grapevine, insects injurious to;
- Acutalis dorsalis*, 9:392, 410.
- Alypia octomaculata*, 5:179, 300; 14:353³.
- Ampelophaga myron* (syn. *Darapsa*), 4:201, 202; 5:174; 7:381; 8:187, 295; 14:317⁶.
- Amphicerus bicaudatus*, 2:126.
- Anomala binotata*, 10:413.
- lucicola*, 1:307; 5:305; 10:409; 14:355².
- marginata*, 10:411-13, 491; 14:379⁵.
- minuta*, 10:413.
- undulata*, 10:413.
- Aphis* species, 5:162; 7:369.
- Aphrophora quadrinotata*, 5:245; 9:392.
- signoreti*, 5:245.
- Cecidomyia* species, 1:322.
- Chauliognathus pennsylvanicus*, 9:344, 463.
- Cicada septendecim*, 2:172.
- Colaspis brunnea*, 1:321; 6:183.
- Craponius inaequalis*, 8:286, 299; 9:364.
- Drosophila ampelophila*, 1:217; 11:285.
- Enchenopa binotata*, 1:287.
- Euthisanotia grata* (syn. *Eudryas*), 5:179.
- Evoxysoma vitis* (syn. *Isosoma*), 2:32; 4:33; 7:374; 8:292; 14:316³.
- Haltica chalybea* (syn. *Graptodera*), 1:307; 3:85; 4:101; 6:188; 7:333, 353; 8:297.
- Harrisina americana* (syn. *Procris*), 2:231; 7:379; 14:323⁴, 323⁷, 334³.
- Icerya purchasi*, 4:187.
- Lasioptera vitis*, 4:64, 67; 5:303, 304; 7:376, 382; 14:320⁹, 354³.
- Lecanium* species, 8:215.

- Grapevine, insects injurious to;
Leptocoris trivittatus, 10:433.
Leptoglossus oppositus, 3:141, 153.
Limonijs agonus, 11:285.
Lioderma ligata, 4:25.
Macroductylus subspinosus, 1:229, 307; 2:66; 4:142, 199; 5:154; 8:200.
Murgantia histrionica, 1:265.
Oecanthus fasciatus, 5:310.
latipennis, 5:311; 14:337.
niveus, 5:302; 11:288.
Otiocerus coquebertii, 9:386.
Oxyptilus periscelidactylus, 8:297; 12:219.
Pelidnota punctata, 1:307; 11:286.
Peridroma saucia (syn. *Agrotis*), 5:205.
Phylloxera vitifoliae, 1:4, 47; 2:21, 35, 36; 7:371; 8:264; 9:347; 14:319.
Plant lice, 13:368.
Polycanon confertus, 2:132.
Prionus laticollis, 4:22.
Pulvinaria innumerabilis (*P. vitis* in error), 2:22; 3:146; 5:326; 6:141; 7:376; 8:110, 177, 178, 216; 11:204; 14:322, 344.
Samia cecropia (syn. *Attacus*), 12:355.
Spilosoma virginica, 1:317.
Stelidota geminata, 11:285.
Systema frontalis, 4:156.
Thyreus abbotii, 5:306; 10:502; 14:355, 385.
Typhlocyba comes var. *vitis* (syn. *Erythroneura vitis*, *T. vitis*), 2:30; 5:302; 7:345; 8:257; 9:403, 430; 12:363.
vulnerata (syn. *Erythroneura*), 9:402.
white grubs, 9:354.
Grapevine bark louse, 5:326; 11:204.
Grapevine beetle, 3:85; 5:229.
light loving, 5:305; 10:408-10; 12:352; 14:393.
spotted, see *Pelidnota punctata*.
Grapevine caterpillar, pyramidal, 11:266.
Grapevine coccus, 7:370.
Grapevine *Colaspis*, 14:329.
Grapevine flea beetle, 1:59, 244, 307, 317; 4:96; 7:332, 353, 357, 361; 11:269, 286; 14:365.
Grapevine hog caterpillar, 8:294.
Grapevine leaf hopper, 4:199; 8:287; 9:430; 14:349, 373.
Grapevine *Phylloxera*, 9:347; 10:362, 498; 14:383; Riley's studies on, 1:17.
Grapevine scale insect, 3:146; 8:215, 216; 10:497.
Grapevine Sphinx, 5:174, 179; 7:364, 381; 14:362, 366.
Grapevine "Thrips," 8, 116, 253.
Grapevine Tortrix, 1:56.
Grapholitha distema, see *G. interstinctana*.
interstinctana, bibliography, 11:252; broods, number of, 11:154-55; distribution, 11:155; imago described, 11:154; infesting clover, 11:152-53; larva described, 11:153; life history and habits, 11:154; mammoth clover not attacked, 11:155; parasites, 11:157; preventives, 11:155-56; pupa described, 11:153; reference, 10:496, 510; 12:357; 14:381, 395.
packardi (rose twig borer), 1:57.
prunivora, 1:329; 11:266.
Grapta, 2:214; 5:285; 10:508; 12:307.
black winged, 9:446.
Grapta c-aureum, see *Polygonia interrogationis*.
comma, see *Polygonia*.
comma, form *dryas*, see *Polygonia*.
faunus, see *Polygonia*.
interrogationis, see *Polygonia*.
j-album, see *Eugonia*.
progne, see *Polygonia*.
satyrus, see *Polygonia*.
umbrosa, see *Polygonia interrogationis* var.
Graptodera chalybea, see *Haltica*.
Grass, insects, etc., injurious to;
Allorhina nitida, 5:320.
Athysanus curtisii (syn. *Amblycephalus*), 9:401, 410.
Blissus leucopterus, 2:149, 233; 7:331.
Bryobia pratensis (syn. *Trombidium bicolor*), 3:128; 6:161.
Camnula pellucida, 10:443.
Cebrio bicolor, 3:101; 7:371.
Chelymorpha argus, 4:14.
Chloropiscea variceps (syn. *C. prolifica*), 7:216.
Chortophaga viridifasciata, 9:331, 333, 439; 10:443.
Circotettix verruculatus, 10:443.
Crambus trisectus (syn. *C. exsiccatus*), 6:181.
vulgivagellus, 1:99, 127, 144; 2:2; 6:182.

- Grass, insects, etc., injurious to;
Deltocephalus inimicus (syn. *Amblycephalus*), 9:401, 410.
melsheimerii (syn. *Amblycephalus*), 9:401, 410.
sayii (syn. *Amblycephalus*), 9:401, 410.
Diedrocephala mollipes (syn. *Aulacizes*), 9:396, 410.
noveboracensis (syn. *Aulacizes*), 9:396, 410.
Dissosteira carolina, 10:443.
Helochara communis, 9:396.
Hydroecia cataphracta (syn. *Gortyna*), 10:374.
Lachnosterna fusca, 1:54, 61; 2:3, 224; 5:154; 6:183; 8:175.
Lepyronia quadrangularis (syn. *Aphrophora*), 5:245.
Leucania albilinea, 10:490.
unipuncta, 1:33; 6:176; 12:198, 353.
Limothrips poaphagus, 5:153, 304.
Macroductylus subspinosus, 1:229.
Melanoplus atlanis, 10:442, 496.
femoratus, 10:443, 496.
femur-rubrum, 8:294; 9:297; 10:442.
Meromyza americana, 3:96.
mite, 4:204.
Nectarophora granaria (syn. *Siphonophora avenae*), 5:251, 252.
Nephelodes minians var. *violans* (syn. *N. violans*), 1:99; 4:57; 6:180; 8:235.
Noctua fennica (syn. *Agrotis*), 8:235.
Oscinidae, 3:96, 147.
Peridroma saucia (syn. *Agrotis*), 5:202.
Ptyelus lineatus, 4:120; 7:383.
Pyrallis costalis, 10:487.
Sphenophorus sculptilis, 1:259.
Tettigonia bifida, 9:395.
Thrips, 3:98; 5:153, 304; 11:249, 250.
white grubs, 13:366⁴.
Grass burrowing beetle (*Cebrio*), 3:100-1; 4:204.
Grass infesting mite, 3:128-30; 4:204.
Grasshopper, Eastern, 8:294.
red legged, 1:7, 332; 2:189; 6:151; 9:332, 392; 10:440, 441.
Grasshoppers, blister beetle larva preying on eggs of, 6:134; classification, 1:79; 4:190; depredations, 1:304; 9:297; 10:439-43; early appearance of, 9:298, 439; hibernation of, 2:196-97; *Mermis* parasitic on, 4:126; midwinter appearance, 2:3-4, 188, 223; mite parasitic on, 8:179-80; plague of, in N. Y., 10:439-45, 496, 505; 12:352; reference, 4:159; 9:350; 12:307; remedies, 1:25, 50; 2:34; 10:444-45; species treated of, 2:188-98; 6:151-53; 9:330-34; 10:439-45; studies of (reference), 4:165, 178; 13:366⁷; 14:381⁵, 393², 397².
grata, *Bombyx*, see *Euthisanotia*.
Chloropisca, 4:71.
Eudryas, see *Euthisanotia*.
Euthisanotia (syn. *Bombyx*, *Eudryas*), 1:33; 5:179-83; 6:177; 8:109, 170; 10:481, 497; 14:313², 326⁴, 362⁶, 382⁶.
grataria, *Haematopsis*, 10:483, 519.
Graves, Mrs H. D., insects from, 7:382; 8:297, 300; 9:463; 10:510, 511; 11:197, 286; 12:359; 13:372⁴.
Grayles, Thomas, insects from, 10:512.
Greedy scale, 11:271.
Greene, M. N., insects from, 11:283.
Greenhouse gnat, 10:496.
Greenhouse *Sciara*, 10:397-99; 12:351; 14:393².
Green's fruit grower cited, 8:289; 14:347⁷.
Gregorson, D., cited, 11:232.
Gridley, Sylvester, insects from, 10:512.
Griffen, Charles, insects from, 13:373⁴.
Griffith, H. G., cited, 4:80.
grisea, *Anametis*, see *A. granulatus*.
Gonatista (syn. *Mantis phryganoides*), 4:162.
griseola, *Leucopis*, 11:164.
griseus, *Benacus*, 7:383; 11:287.
grossulariae, *Pempelia*, see *Zophodia*.
Pristiphora, see *Gymnonychus appendiculatus*.
Zophodia (syn. *Pempelia*), 2:10; 8:294; 14:317².
Grote, A. R., cited, 1:81, 87, 116, 127, 149; 2:89; 5:174, 192, 201, 207, 210; 11:138, 142, 146, 152; quoted, 11:154; *Check list of the Noctuidae of America north of Mexico* cited, 8:292; 14:307, 315⁷; *New check list of North American moths* cited, 1:81; 2:57; 4:57; 5:207; 11:127, 134, 138, 142.
Ground beetles, 1:40; 8:237; 10:493; 12:236, 353; 14:380¹.
Ground bird feeding on *Cicada*, 12:289.

- Ground hogs feeding on Cicada pupae, 12:288.
 Ground nuts, *Tribolium ferrugineum* infesting, 2:139.
 Grove, E. S., insects from, 4:207.
Gryllotalpa, 1:69.
 borealis, 2:233; 6:149-51; 10:519; 12:363; 14:335¹, 368².
 columbia (syn. *G. longipennis*), 5:326; 6:151.
 longipennis, see *G. columbia*.
 vulgaris, 4:180; 6:151.
Gryllus abbreviatus, 8:179.
 hyemalis, see *Boreus*.
 luctuosus, 8:110, 179, 300; 10:497; 14:382².
grynea, *Catocala* (syn. *C. polygama*), 1:328; 8:292; 11:121, 266; 14:316².
 Guenée, Achille, cited, 5:210; quoted, 11:137; referred to, 11:132; *Histoire naturelle des insectes—Lépidoptères*, cited, 1:99, 110, 116; 2:97; 4:57; 5:200, 206, 210; 8:129; 11:126, 134, 142, 145; *Noctuarum Europæarum index methodicus*, cited, 5:210; *Species Général des Lépidoptères*, reference, 14:311².
 Guérin-Meneville, F. E., cited, 11:240; *Iconographie du règne animal* cited, 10:414.
 Guest-beetle, 5:173.
 Guilding, L., cited, 11:240.
guttata, *Coptocycla*, see *C. signifera*.
 Smilia, 9:389.
guttatus, *Julus*, 10:449.
guttivitta, *Cecrita* (syn. *Heterocampa*), 11:265.
 Heterocampa, see *Cecrita*.
 Guyer, H., insects from, 10:509.
 Gyllenhal, Leonard, cited, 2:140.
Gymnonychus appendiculatus (syn. *Pristiphora grossulariae*), 2:5.
Gymnosporangium clavipes (*Roeselia aurantiaca* aecidial form), 2:12; 6:181; 14:328³, 341⁴.
 macropus, 14:328³.
Gypona flavilineata, 9:397, 410.
 scarlatina, 9:397.
 striata, 9:410.
 Gypsy moth, 7:302-4, 335-37, 357; 9:422-26; 10:369-72, 485, 505; 11:180, 227, 264, 278; 12:193, 311, 351; 13:369²; 14:363³, 374¹, 377⁵, 386³, 392⁵, 392⁹, 398²; Commission, work of, 9:422-26; 10:369-72.
Habrosyne scripta, 1:340.
 Hackberry, American, *Pachypsylla celtidis-mamma* on, 3:141.
Hadena, 1:58, 106; 8:231.
 adjuncta, see *Mamestra*.
 adusta, of Europe, 4:127.
 arctica, see *Xylophasia*.
 devastatrix, see *Xylophasia*.
 finitima, see *Xylophasia*.
 fractilinea, 10:482.
 grandis, see *Mamestra*.
 lateritia, see *Xylophasia*.
 lignicolor, see *Xylophasia*.
 passer, see *Luperina*.
 species, 11:284.
 subjuncta, see *Mamestra*.
 turbulenta, 10:509.
 verbascoides, see *Xylophasia*.
Hadrobregmus foveatus, 4:20, 22.
Haematobia cornicola, see *H. serrata*.
 serrata (syn. *H. cornicola*), detailed account, 5:220-27; 7:332-34; 8:192-96; distribution, 5:226; 9:296; European bibliography, 5:223; habits, 5:220-22, 225; 7:333; identical with European species, 5:222, 310; injury to cattle, 5:225-26; 7:333; 8:193, 195-96; introduction, 5:223; life history, 5:224-25; preventives, 5:325; 6:169; reference, 5:325; 8:126, 194, 297; 9:444, 462; 13:364³, 365³; 14:355³, 356³, 356⁴, 358³, 361⁴, 362³, 372³, 375³, 376³, 396³, 396³; remedies, 5:226-27; 9:442.
Haematopinus eurysternus, 1:48.
 piliferus, 1:48.
 suis, see *H. urius*.
 urius (syn. *H. suis*), 1:48.
 vituli, 1:48.
Haematopis grataria, 10:483, 519.
haemorrhoidalis, *Heliothrips*, 1:332; 2:56; 11:271.
 Hag moth (*Phobetron*), 1:328; 11:264, 285.
 caterpillar of, 3:227; 5:183-92, 306; 9:443; 14:332⁷, 362⁶, 376².
 green, 1:328; 11:264.
 Hagen, H. A., cited, 1:201; 2:136, 198, 203; 4:93, 103, 121, 123; 5:164; 7:279; 8:155, 159; 9:300; 10:388; 11:234, 240, 248; 12:298; 13:344²; quoted, 2:138; 12:299; referred to, 11:234; *Beiträge zur kenntniss der Phryganiden* cited, 12:298; *Synopsis of the Neuroptera of North America* cited, 2:198, 203; 4:121; 8:155, 159; 10:477; 11:234, 240; 12:298.
 Hahn, C. W., *Wanzenartigen Insecten* cited, 1:264; 2:144.

- Hailes, William, insects from, 12:225.
- Hair snake or worm, 2:230; 4:125-27; 9:298; 14:333^s, 357^s.
- Hair streak, banded, 11:264.
- Hair worms. *see* Hair snake.
- Haldeman, S. S., cited, 5:231; 8:159.
- Halisidota, 10:466.
 caryae, 1:328; 6:187; 7:355; 8:296; 9:455; 11:264; 13:369^r; 14:313^s, 398^s.
 maculata, 1:328; 11:264.
 tessellaris, 5:308; 10:481; 14:356^s.
- Hall, A. P., insects from, 13:371^s.
- Hall, James, insects from, 10:516.
- Hall, J. W., insects from, 5:325; 10:517.
- Hallett & Son, insects from, 4:205.
- Haltica alni, *see* H. bimarginata.
 bimarginata (syn. H. alni), 4:96-101; 5:170; 14:357^s.
 chalybea (syn. Graptodera), 1:59, 244, 307, 317; 3:85; 4:96; 6:188, 189; 7:332, 353, 361; 8:298; 11:269, 286; 14:365^r.
 foliacea, 11:269.
 punctipennis, 11:269.
 striolata, *see* Phyllotreta vittata.
- Haltichella perpulchra, 12:210.
- Halticini, 4:102; 10:416.
- Ham or cheese mite, 3:151; 13:364^s; 14:346^s.
- Ham skipper, 12:229-34; 14:399^s.
 See also Piophilha casei.
- hamamelidis, Brysocrypta, *see* Hormaphis.
- Hormaphis (syn. Brysocrypta), 9:409, 411, 412.
- hamamelis, Acronycta, 10:482.
- Hamamelis virginica, *see* Witch hazel.
- hamellus, Crambus, 1:150.
- Hamilton, John, cited, 4:103; 7:247, 256, 280; 9:300; 10:408, 417; 12:254, 268; quoted, 12:270; referred to, 12:271.
- hammondi, Canarsia (syn. Pempelia), 1:329; 11:266.
 Pempelia, *see* Canarsia.
- Hams, smoked, Piophilha casei injuring, 12:230, 233.
- Hanford, G. R., insects from, 13:374^s.
- Hanson, Henry, insects from, 6:188.
- Haploa confusa (syn. Callimorpha), 7:219.
 lecontei (syn. Callimorpha), 9:455; 11:264; 14:313^s.
- Hard hack, insects collected from, 5:284.
- Hardenburg, C. C., insects from, 6:189; 10:509.
- Harder, Jacob, insects from, 12:207.
- Hardin, C. H., insects from, 13:371^s.
- Harding, W. E., insects from, 4:206.
- Hargitt, C. W., cited, 7:324.
- Harlequin cabbage bug, absence of parasites, 1:268-69; a southern insect, 1:264-65; description, 1:265-66; detailed account, 1:264-71; 9:315-17 difficult to destroy, 1:268; distribution, 1:266-67; 2:55-56; 6:177; 9:315; injuries, 1:267-68; natural history, 1:266; reference 1:39, 195; 2:95, 145, 146; 7:372; 10:498; 11:280, 287; 12:349, 363; 14:319^s, 326^s, 336^s, 375^s, 383^s, 389^s, 391^s; remedies, 1:40, 63, 269-70; 9:316-17.
- Harmonia picta, 2:186.
 pini, *see* Parharmonia.
- Harpactor cinctus, *see* Milyas.
- Harpalus caliginosus, 8:237; 12:209.
 larvae from strawberry roots, 9:462.
 pennsylvanicus, 12:209.
- Harper's new monthly magazine cited, 12:229.
- Harper's weekly cited, 7:296.
- Harpiphorus maculatus (syn. Emphytus), 1:42; 13:336^r.
 varianus, 6:186.
- harpyia, Musca, *see* M. domestica.
- Harrington, W. H., cited, 1:254; 4:35; 5:164; 7:256; 10:417; 12:183, 193, 238, 243; 13:335^s, 338^s, 341^s, 344^s; quoted, 13:339^r; referred to, 12:246; 13:338^s.
- Harriot, M. B., insects from, 5:325.
- Harris, D. F., insects from, 10:511, 518; 11:170, 285; 12:363.
- Harris, Mrs Ira, insects from, 4:208; 5:326.
- Harris, T. W., cited, 1:227; 2:125; 5:174; quoted, 12:239, 244, 266-67, 299; 13:339^s, 348^s-49^s; referred to, 12:246, 299; 13:339^r, 345^s, 354^s; *Catalogue of the animals and plants of Massachusetts* (1st ed.), 5:192; *Catalogue of the insects of Massachusetts* cited, 7:225; *Entomological correspondence*, cited, 1:81, 110, 227; 2:57, 102, 203; 4:27, 51; 5:180, 183, 192, 206; 9:309; 12:298; *Insects injurious to vegetation*, *see* following: *Insects of Massachusetts* (1st ed.), cited, 1:172, 194, 232; 2:68, 132, 168, 188; 5:183, 192, 231; 7:225; *Treatise on the insects of New England* (2d ed.), cited, 1:81, 172, 194, 227, 232, 281; 2:57, 68, 102, 132, 148, 168, 188; 4:27, 35,

- 114; 5:183, 192, 200, 206, 231, 234; 7:288; 9:317; *Treatise on insects* (3d ed.), cited, 1:81, 110, 172, 194, 227, 232, 281; 2:57, 68, 102, 132, 148, 168; 4:27, 35, 114; 5:183, 192, 200, 206, 231, 234; 7:225, 288; 9:317; 10:408, 477; 11:145, 248; 12:183, 229, 237, 243, 264; 13:342^o, 351^o.
- harrisii*, *Aspidiotus*, *see* *Chionaspis furfurus*.
- Dytiscus*, 3:141; 5:325; 10:493, 510; 14:380⁴.
- Ellema, 9:449, 508; 14:309^o.
- Harrisimemna trisignata*, 12:360.
- Harrisina americana* (syn. *Procris*), 2:231; 7:379; 14:323⁵, 323⁷ 334³.
- Harrison, W. H., insects from, 10:517.
- Harsey, Joseph, insects from, 5:325.
- Hart, W. E., cited, 11:249.
- Hartig, Theodor, cited, 5:164; *Die Familien der Blattwespen und Holzwespen* cited, 5:164.
- Hart's tongue, *Phytomyza flava* mining, 4:79.
- haruspica*, *Agrotis*, *see* *Noctua*.
- Noctua* (syn. *Agrotis*), 10:482.
- Harvard university, course in entomology at, 12:344.
- Harvest fly, 2:179; 4:202; 12:274; 14:350⁶.
- Harvest mites, 5:290; 6:160.
- Harvey, F. L., insects from, 10:511.
- harveyi*, *Leucania*, *see* *L. albilinea*.
- Haswell, J. N., insects from, 13:374⁵.
- Hawk moths, flight of, 12:202.
- Hawley, C. T., insects from, 12:359.
- Haworth, A. H., *Lepidoptera Britannica* cited, 1:81.
- Haws, wild, *Trypeta pomonella* breeding in, 12:348.
- Hawthorn, insects on or injurious to;
- Aspidiotus perniciosus*, 11:224, 287.
- Cecidomyia crataegi*, 7:308, 364.
- Corythuca arcuata*, 4:108.
- Fenisea tarquinius*, 5:282.
- Icerya purchasi*, 4:187.
- Odontota dorsalis*, 12:266.
- Saperda candida*, 5:320.
- Tischeria malifoliella*, 11:162.
- Trypeta pomonella*, 2:118, 121.
- Hawthorn Tingis, 4:108.
- Hay stack moth (*Pyrallis glaucinalis*), 11:148.
- Hayes, H. E., insects from, 5:326.
- Hazel, *Phobetron pithecium* on, 5:187, 192.
- Hazelnuts, *Balaninus* species feeding on, 12:269.
- Heal-all, *Thrips tabaci* on, 11:245.
- Heart's-ease *Hydroecia nitela* (syn. *Gortyna*) on, 1:112; 8:191.
- Hedera helix*, *see* *Ivy*.
- Hedges, C. H., insects from, 3:141; 5:326; referred to, 11:231.
- Heerwurm, 10:390.
- heiligbrodti*, *Anisota*, *see* *Sphingicampa*.
- Sphingicampa* (syn. *Anisota*), 5:199.
- Heinemann, H., *Schmetterlinge Deutschlands und der Schweiz*, cited, 2:102.
- Helianthus*, *Ecpantheria ocularia* (syn. *E. scribonia*) feeding on, 12:189.
- divaricatus*, *Charidryas nycteis* (syn. *Melitaea*) on, 9:448.
- multiflorus*, *Phytomyza chrysanthemi* (*P. lateralis* in error) mining, 4:76.
- helicis*, *Sarcophaga*, 12:210.
- Helicomitus insimulans* (syn. *Ascalaphus*), 11:239.
- Heliconia charitonia*, 1:70.
- Heliophila unipuncta*, *see* *Leucania*.
- Heliothis armiger*, benefit of destroying first brood, 1:126; bibliography, 1:116, 344; boll worm of the south, 1:117; carnivorous habits of caterpillar, 1:119-20; description, 1:118; detailed account, 1:116-26; food plants, 1:120; geographical distribution, 1:121; method of attacking corn, 1:122-23; moth a day feeder, 1:118-19; occurrence in N. Y., 1:124; operations as a "corn-worm," 1:121-22; 6:185; 7:216, 363; reference, 1:8; 2:2, 93; 7:382; 13:366^o; 14:330^o, 335^o, 366⁵, 397²; remedies, 1:125-26. species, 11:266.
- umbrosus*, *see* *H. armiger*.
- Heliothrips haemorrhoidalis*, 1:332; 2:56; 11:271.
- Heliotrope*, *Plusia rogationis* (syn. *P. dyaus*) on, 2:94, 228; 14:333¹.
- Heliria scalaris* (syn. *Telamona fagi*), 9:391, 410.
- Heller, C. R., insects from, 10:519.
- Hellgrammite fly, 4:208; 5:326; 7:254; 8:300; 10:490, 501; 11:288; 14:379¹, 385².
- Helochara*, *Fitch*, nov. gen. 1:300.
- communis*, 9:396, 410.

- Helophilus*, vestiture of, 1:212.
 latifrons (*H. similis* in error), 4:200; 7:228-34; 8:287, 297; 9:440, 462; 14:349^s, 372^o, 374⁴.
 similis, 7:230, 233.
 similis, erroneous reference of *H. latifrons*.
 tenax, *see* *Eristalis*.
Helops micans, 11:269.
Helotropha reniformis, 10:482.
helva, *Orthosia*, 1:340.
helxines, *Crepidodera*, 4:102, 196; 11:269.
Hemaris buffaloensis (syn. *Sesia*), 9:451; 14:312², 358^s.
 diffinis (syn. *Sesia*), 9:450-51; 14:312².
 thysbe (syn. *Sesia*), 10:507; 14:309^s.
 var. *ruficaudis* (syn. *Sesia uniformis*), 10:494 14:380^r.
Hemerobiidae, 1:302.
Hemerobius cornutus, *see* *Corydalis cornuta*.
 delicatulus, *see* *Psectra diptera*.
 dipterus, *see* *Psectra diptera*.
 pectinicornis, *see* *Chauliodes*.
Hemerophila unitaria, *see* *Lytrosis*.
Hemileuca maia, 1:328; 2:40, 75; 3:91; 4:52, 195; 5:186; 9:448, 456; 11:265; 14:311^o, 313^o, 347^s.
Hemiptera, catalogue of Homoptera of N. Y., 9:381-413; classification, 1:78-79; 4:167, 190; 8:302; 9:466; contributions of, 4:203; 5:326; 6:189; 7:383-84; 8:299; 9:463-64; 10:512, 517-19; 11:287; 12:363; depredating on the apple tree, list of, 1:331-32; 11:270-71; depredating on hemlock, 4:20, 24-25; Heteropterous, 1:306; 4:181; 10:432; hibernation of, 8:270; Homoptera, number in U. S., 4:181; in U. S. nat. museum, 1:23; 9:411-13; manner of feeding, 8:274; mouth parts of, 12:327; predaceous, 4:85, 133; reference, 1:17, 227; 9:333; 10:368; 11:106, 248; species treated of, 1:264-88, 311; 2:144-87; 3:107-28; 4:12-13, 107-21; 5:243-57, 273-81; 6:137-48; 7:317-18, 331-32; 8:152-55, 205-20, 253-57; 9:315-29; 10:420-39; 11:198-233; 12:272-98; 13:351¹-57^s; spiders feeding on, 10:430; studies in, 4:10, 165.
hemipterum, *Acridium*, *see* *Chortophaga viridifasciata*.
Hemiteles, 2:79; 5:99.
 laticinctus, 12:211.
 sessilis, 1:86.
 smithii, *see* ?*Cryptus*.
 thyridopterigis, 1:85.
 Hemlock, insects injurious to;
Alobates pennsylvanicus (syn. *Nyctobates*), 4:20, 23.
Basilona imperialis (syn. *Eacles*), 4:20, 21.
Callidium species, 4:20, 23.
Cicada septendecim, 2:176; 4:20, 25.
Crypturgus pusillus (syn. *C. atomus*), 4:20, 24.
Dicerca species, 4:20, 22.
Eupithecia species (*Hemlock* inch worm), 4:20, 21.
Gelechia abietisella, 4:20, 22, 59.
Hadrobregmus foveatus, 4:20, 22.
Hylotrupes bajalus, 4:20, 23.
Leptura canadensis, 4:20, 23.
Lioderma ligata, 4:20, 25.
Melanolophia canadaria (syn. *Tephrosia*), 4:20, 21.
Melanoplus spretus (syn. *Caloptenus*), 4:21, 25.
Nepytia semiclusaria, (syn. *Cleora pulchraria*), 4:20, 21.
Olene achatina (syn. *Parorygia parallela*), 1:328; 9:455.
Orthosoma brunneum, 4:20, 22, 23.
 pine inch worm, 10-lined, 4:20, 21.
Pinipestis zimmermani, 4:19.
Pissodes strobi, 4:20, 24; 9:345.
Tephroclystis luteata (syn. *Eupithecia*), 4:20, 21.
Thyridopteryx ephemeraeformis, 1:84; 4:20, 21.
 Tineid, 4:59.
 Tolyte laricis, 1:88; 4:20, 21.
Tortrix fumiferana, 4:20, 22.
 Hemlock leaf miner (? *Gelechia abietisella*), 4:59.
 hemorrhoea, *Penthimia*, 9:397.
 Hemp, corn worm on, 1:120.
 Henbane, corn worm on, 1:121.
 Henderson, Peter, insects from, 6:188.
 Hendricks, James, insects from, 12:362.
 henrici, *Thecla*, *see* *Incisalia irus*.
 Henry, John, insects from, 6:187.
 Henshaw, Samuel, cited, 4:128; 5:234; 11:178; 12:254; *Bibliography of the more important contributions to American economic entomology* cited, 13:331^s; *List of the Coleoptera of America north of Mexico* cited, 4:93, 101, 103, 155; 5:227, 232, 234; 9:300; 10:414, 417. *Third supplement to the list of Coleoptera of North America* cited, 10:414.
 Hentz, N. M., cited, 1:227; 12:235.

- hentzii, *Chauliognathus*, see *C. marginatus*.
- Heodes hypophlaeas (syn. *Chrysophanus*, *C. americanus*), 3:108; 4:137; 5:285.
- Hepialus, 2:217.
- heracliana, *Depressaria*, 9:454; 14:312⁵.
- Heracrides cresphontes (syn. *Papilio*), 9:336-37, 461; 10:498, 515; 14:383⁷.
- herbaceus, *Melanoplus*, 11:272.
- Herbst, J. F. W., *Natursystem aller bekannten in-und ausländischen Insecten* cited, 2:136; 7:288.
- herculaneus, *Camponotus* (syn. *Formica noveboracensis*), 1:330; 7:377; 10:365, 366, 491; 11:264; 12:181; 14:322⁵, 379⁴.
- var. pennsylvanicus, *Camponotus* (syn. *Formica pennsylvanica*), 1:62; 10:365; 11:113; 12:181, 182.
- hercules, *Dynastes*, 7:249.
- herilis, *Agrotis*, see *Feltia*.
- Feltia (syn. *Agrotis*), 8:300; 10:482, 519.
- Hermit *Osmoderma*, 11: 268.
- heros, *Aeschna*, see *Epiaeschna*.
- Epiaeschna (syn. *Aeschna*), 1:322; 12:364.
- Herrick-Schaeffer, G. A. W., *Wanzenartigen Insecten* cited, 2:164.
- Herrick, E. C., cited, 2:102.
- herrickii, *Platygaster*, 1:321.
- Herschart, G. H., insects from, 13:358³.
- herse, *Apatura*, see *Chlorippe clyton*.
- Hershog, A., insects from, 6:189.
- Hesperia lineola, see *Thymelicus*.
- montivaga (syn. *Pyrgus tessellata*), 1:336.
- Hesperid butterfly, 10:502.
- Hesperidae, 1:335, 337, 339; 2:214; 7:371; 14:318³.
- hesperidum, *Coccus*, erroneous reference of *Pulvinaria innum-erabilis*.
- Lecanium, 2:32; 7:370; 10:512; 11:222, 287; 13:374⁷.
- Hessian fly, detailed accounts by Fitch (abstracts), 1:298-99, 321; injuries, 5: 263; 9:426; reference, 1:224, 308, 316; 2:125, 151, 226; 3:97; 5:286, 325; 6:176; 7:368; 8:122; 9:447; 14:311³, 317³, 325³, 332³, 363³; remedies, 1:58, 63; 5:264.
- Heterocampa guttivitta, see *Cecrita*.
- manteo, 11:265.
- marina, see *H. unicolor*.
- marthesia, see *Macrurocampa*.
- unicolor (syn. *H. marina*), 10:481.
- Heterocera (moths), dates of collection of, 14:311³, 312⁴; life duration of, 1:339-41; reference, 9:450, 453, 456, 461; 10:481-83; 12:352.
- Heterochroa bredowii, var. californica (syn. *H. californica*), 8:296.
- californica, see *H. bredowii* var.
- Heterogenea flexuosa (syn. *H. textula*), 11:264.
- textula, see *H. flexuosa*.
- heteromorphus, *Tyroglyphus*, see *Tyroglyphus heteromorphus*.
- Heteropacha rileyana, 2:40.
- Heterophleps triguttata, 10:483.
- Heteroptera, classification, 1:79; depredating on apple tree, list of, 1:231; 11:270; number of species, 4:165, 181; reference, 11:200; species treated of, 1:264-81; 2:145-48; 4:107-14; 156-58; 9:315-17; 10:430-39; 11:198-99; 13:351¹-57⁷; studies of, 4:10.
- Heteropus ventricosus, 2:110; 6:187, 190; 10:385-86.
- Hewson, R. C., on injury by chestnut weevils, 12:269.
- hexadaetyla, *Alucita*, 12:221.
- Hexagenia bilineata, 4:124.
- Heyden, C. H. G., cited, 2:116.
- Hibiscus, *Aramigus fulleri* on, 2:143.
- Hickory, insects injurious to;
- Amphicerus bicaudatus, 2:126.
- Cacoecia argyrospila, 7:356.
- Chlamys plicata, 12:362.
- Chrysobothris femorata, 6:155.
- Cicada septendecim, 2:176; 12:287.
- Cyllene pictus, 2:223; 8:175; 13:360⁴.
- Datana integerrima, 12:309.
- species, 4:40.
- Diapheromera femorata, 1:111.
- Halisidota caryae, 7:355.
- Neoclytus erythrocephalus, 12:246.
- Notolophus leucostigma (syn. *Orgyia*), 2:77.
- Phylloxera caryaecaulis, 11:287.
- depressa, 6:189.
- Schizoneura caryae, 3:125.
- Scolytus icoriae, 4:107.
- Systema marginalis, 4:156.
- Tropaea luna (syn. *Actias*), 2:39.
- Xylotrechus colonus, 4:96, 194.
- pig nut, *Elaphidion villosum* (syn. *E. parallelum*), attacking, 12:362.

- Hickory borer, 2:223; 8:175-76; 10:497; 13:360¹, 373⁶; 14:331², 382⁷, 400².
- Hickory nuts, *Balaninus* species feeding on, 12:269.
- Hickory stem gall louse, 11:287.
- Hickory tussock moth, 1:328; 11:364; 13:369⁷; 14:398⁴.
- Hicks, I., cited, 11:177; 12:190.
- Hildreth, S. P., cited, 2:167.
- Hill, A. B., insects from, 8:297.
- Hill, S. B., insects from, 10:511.
- Hill, W. W., insects from, 4:208.
- hilli, *Hypocala*, 7:375; 14:321⁷.
- Hillman, F. H., cited, 12:293; referred to, 12:294.
- Himes, F. B., insects from, 9:463.
- Hind, H. Y., *Insects injurious to wheat crops* cited, 1:221.
- Hippiscus tuberculatus (syn. *Oedipoda phoenicoptera*), 8:300; 9:330.
- Hippoboscidae, 1:79.
- Hippodamia, 6:118.
- convergens*, 3:153; 5:249-50, 257; 7:382; 11:282; 14:390⁶.
- maculata*, see *Megilla*.
- hirticula, *Lachnosterna*, 1:330; 9:355; 11:268.
- Hispa, rosy, 1:331; 12:267.
- suturalis*, see *Odontota dorsalis*.
- Hister, *Hypopi* on, 11:257.
- histrionica, *Murgantia*, see *Murgantia histrionica*.
- Strachia*, see *Murgantia*.
- Hitchcock, W. C., insects from, 8:298, 300; 9:462.
- Hitt, G. R., insects from, 10:500.
- Hive bee, see Honey bee.
- Hoag, I. W., insects from, 6:187.
- Hoag, J. S., insects from, 10:513.
- Hoagland, Mrs., insects from, 5:325.
- Hodges, G. C., insects from, 9:464.
- Hoffman, J. B., insects from, 5:326.
- Hogeboom, C. L., insects from, 7:384.
- Holcus, *Nectarophora granaria* (syn. *Siphonophora avenae*) on, 5:252.
- Holly, E. N., insects from, 3:142; 8:297.
- Holly, insects on or injuring;
- Phytomyza obscurella*, 4:79.
- Stagmomantis carolina* (syn. *Mantis*), 8:300.
- Holmes, Jerome, insects from, 11:286.
- holosericea, *Nyctobora*, 13:375².
- Homalomyia, 1:168, 169, 171.
- circularis*, 1:168, 171.
- cilicrura*, see *H. fuscula*.
- floricola*, see *H. fuscula*.
- fuscula* (syn. *H. cilicrura*, *H. floricola*), 1:184.
- Homalomyia prostrata, 1:171.
- scalaris*, 1:168, 171.
- tetracantha*, 1:171.
- Homaloptera, 1:79.
- Homalota lividipennis, 5:303; 14:354².
- Home farm [Augusta, Me.] cited, 5:322; 14:341⁸.
- Homohadena atrifasciata, see *Oncohemis*.
- badistriga*, 7:375; 14:321⁶.
- Homoptera, catalogue of N. Y., 1:300, (abstract), 323 (reference); 9:381-413; 10:498 (reference); characters, 1:79; depredating on apple tree, 1:331-32; 11:270-71; number of species, estimate, 4:181; species treated, 1:281-88; 2:167-87; 3:112-28; 4:114-21; 5:243-58; 276-81; 6:141-48; 7:296-301; 8:152-55; 9:317-19; 10:420-30; 11:200-23; 12:272-98; studies in, 4:165.
- Homoptera edusa, see *H. lunata* var.
- lunata*, 4:57-59; 5:315; 7:375; 14:321⁷, 338⁷, 357⁶.
- var. *edusa* (syn. *H. edusa*), 4:57, 59; 7:375; 14:321⁷.
- saundersii*, see *H. lunata*.
- Honey, spraying blossoms with arsenites affecting, 14:370².
- Honey bee fly (*Eristalis tenax*), 7:229.
- Honey bees, arsenical spraying of blossoms, effect on, 8:280; 11:117, 122-24; examined for arsenic, 11:118; experiments of Prof. Cook, 11:118; of Prof. Webster, 11:117-18, 122-24; insect enemies, 1:318; legislation to protect, 11:119; parasites, 10:404.
- Honey bug (*Leptocoris trivittatus*), 4:157.
- Honeysuckle, insects injurious to;
- Clastoptera obtusa*, 5:244.
- Mamestra picta*, 5:209.
- Phytomyza obscurella*, 4:79.
- Tartarian, army worm moths feeding on fruit, 12:202, 203.
- Honeysuckle saw fly, 3:88.
- Hooker, C. M., insects from, 11:205.
- Hoose, J. H., insects from, 7:383.
- Hop, insects injurious to;
- Ampelophaga myron* (syn. *Darapsa*), 5:307.
- Hydroecia immanis (syn. *Gortyna*), 2:41; 10:372-73.
- Phorodon humuli (syn. *Aphis*), 1:319, 320; 3:84, 112, 115, 148; 4:12, 197, 199; 6:103, 167; 7:331, 335; 8:122, 207-10, 267;

- 9:294, 369; 10:427-28, 429; 12:307.
 Rhizobiinae, 4:196, 197.
 Hop tree, insects injurious to;
 Enchenopa binotata, 1:287.
 Heraclides cressphontes (syn. *Papilio*), 9:337.
 Hop vine aphid, destruction by, 3:84, 112, 148; 4:12; 6:103, 167; 10:426-27, 429; general account, 1:319-20; 3:115-18; 8:207-10; lady bug preying on, 3:116, 148; 4:12; life history, 8:207-8; reference, 1:8, 296; 3:149; 4:197, 199, 204; 5:153; 7:331, 335, 345, 357; 8:122; 9:294, 369; 10:362, 495, 497, 512; 12:307; 14:349¹, 352³, 359⁹, 360⁷, 370⁵, 380⁹, 382⁶; remedies and preventives, 1:319; 3:117; 6:167; 8:209-10; when to attack, 8:208; 10:428.
 Hop vine grub (*Hydroecia immanis*), 2:35, 40; 10:372-73; 12:351; 14:392⁵.
 Hop vine root aphid, 4:196.
 Hopkins, A. D., cited, 10:388; 12:265, 266; quoted, 12:265-66.
 Hopkins, A. D. and Rumsey, W. E., cited, 11:127, 135, 147, 178, 250; 12:193.
 Hopperdozer, 7:338; 10:444.
 horatius, *Nisoniades*, see *Thanaos*.
 Thanaos (syn. *Nisoniades*, *N. virgilius*), 1:334.
 hordei, *Aphis*, see *Nectarophora granaria*.
 Eurytoma, see *Isosoma*.
 Ichneumon, see *Isosoma*.
 Isosoma (syn. *Eurytoma*, *Pteromalus*), 1:304, 307; 4:11, 27-35, 205; 5:315; 9:458; 14:314⁴, 357³.
 Pteromalus, see *Isosoma*.
 Hordeum murinum, *Nectarophora granaria* (syn. *Siphonophora avenae*) on, 5:252.
 Hormaphis hamamelidis (syn. *Brysocrypta*), 9:409, 411, 412.
 Horn, G. H., cited, 1:228, 254; 2:136, 142; 5:227, 232; 7:255, 285; 10:408, 411; 11:197; 12:248, 264, 268; referred to, 12:267; *Galerucini of boreal North America* cited, 11:197.
 Horn bug, spotted, 2:227; 5:227-31; 7:246-55; 9:342, 444; 11:274; 14:362⁸, 376³.
 Horn fly (*Haematobia serrata*), detailed account, 5:220-27; 7:332-33; 8:192-96; distribution, 5:226, 307; 9:296, 442; identification of, 5:222-23, 310; injury to cattle, 5:225-26; 7:333; 8:193-96; 9:144; introduction, 5:220, 223; 8:193; 9:296; life history and habits, 5:221, 222, 224-25, 306, 308; reference, 5:325; 8:126, 286; 10:497; 13:364⁹; 14:356², 372⁶, 375⁶, 376⁵, 376³, 382⁴, 396⁷; remedies, 5:226-27; 6:169; 8:194, 196; 9:442.
 Horn tail, 2:226; 4:38, 95; 5:311; 6:171; 11:279; 13:339⁸, 341³; 14:332¹, 336⁹, 361⁹, 389⁹, 398⁵.
 Horne, Mrs M. E., insects from, 13:375³.
 Horned Corydalis, 8:159-62; 10:497.
 Hornet, bald faced or white faced, 1:330; 5:285; 7:229; 11:264.
 Hornets, 1:78, 168; 4:190.
 horridus, *Acarus*, see *Tyroglyphus longior*.
 Horse chestnut, insects injurious to;
 Lycia cognataria (syn. *Amphidasys*), 2:101.
 Mytilaspis pomorum, 11:202.
 Notolophus leucostigma (syn. *Orygia*), 1:33, 64, 98; 2:69, 76, 77; 4:50; 6:107; 7:216; 9:295, 437; 11:124.
 Zeuzera pyrina, 9:426.
 Horse flies, 6:116; 14:366⁹.
 Horseradish, *Nysius angustatus* on, 5:321.
 Horseweed, *Hydroecia nitela* (syn. *Gortyna nebris*) on, 1:115.
 hortensis, *Julus*, see *J. caeruleocinctus*.
 Smynthurus, 1:322; 2:207.
 hortulanus, *Bibio*, 2:112.
 Hoskins, T. H., cited, 11:250.
 Houck, J. H., insects from, 6:187; 12:362.
 Hough, R. B., insects from, 10:518.
 Houghton farm cited, 4:103.
 House fly, common; 8:265, 275; 9:310, 313, 375; fungus on, 2:179; 6:168; 7:316; 14:360⁵; *Hypopi* on, 11:257; reference, 1:62; 4:167; 6:168; 8:265; 9:310, 313; 10:475; 12:307, 337, 338; 13:370³; *Trombidium muscarum* on, 7:384; 14:367⁴.
 lesser, 1:111.
 House plants infested by white scale, 11:203.
 Household centipede, 9:440; 14:374⁸.
 Hover flies, 7:229; 10:377.
 Hovey's magazine of horticulture cited, 11:248.
 Howard, C. M., insects from, 7:382.
 Howard, L. O., cited, 2:90; 4:80; 5:220; 7:247, 296; 10:378; 11:133,

- 167, 178, 202, 210, 223, 226, 232, 233, 249, 256; 12:183, 192, 230, 231, 248, 254, 263, 264, 292, 317, 321, 335; 13:344², 344³, 352³; on Lintner's work, 14:304; on San José scale, 11:210, 223, 229, 231; referred to, 11:202; 12:182, 205, 207, 232, 255, 261, 267.
- Howard, L. O. and Marlatt, C. L., cited, 11:233.
- Howell, G. R., insects from, 10:515; 11:285; 12:361; 13:373³.
- Hoystradt, L. H., insects from, 12:360.
- Hoyt, A. G., insects from, 8:299.
- Hoyt, C. R., insects from, 6:189.
- Hoyt, J. K., cited, 10:411.
- Hubbard, H. G., cited, 10:405; 12:191, 243; *Insects affecting the orange* cited, 4:51, 115, 159; 5:184; 11:249; 14:344².
- Hubbard, S. H., insects from, 4:208.
- Hübner, Jacob, *Sammlung Europäischer Schmetterlinge*. *Noctua* cited, 1:116; 5:200; *Verzeichniss bekannter Schmetterlinge* cited, 5:174, 192, 200; 7:225; *Zuträge zur Sammlung exotischer Schmetterlinge* cited, 5:174, 180.
- hudsonias, *Systema*, 13:373³.
- Husted, S. B., insects from, 5:326.
- Hulst, G. D., cited, 2:57; 4:20; 8:129; 12:192; 253; 13:343⁷; reference, 13:345⁹.
- humeralis, *Purpuricen*, 1:297.
- humicola, *Achorutes* (syn. *Podura*), 2:205, 244.
Podura, see *Achorutes*.
- Humming bird moths, 5:309; 10:494; 11:280; 14:380⁷.
- Humphreys, H. W. N., *Genera of British moths popularly described and illustrated* cited, 11:145.
- humuli, *Aphis*, see *Phorodon*.
- Hypena, 7:375; 14:321⁹.
Phorodon, see *Phorodon humuli*.
- Hungarian grass, *Blissus leucop-terus* on, 13:361⁷.
- hungaricus, *Ascalaphus* (syn. *A. macaronius*), 11:239, 240.
- Hunt, H. C., insects from, 3:140.
- Hunt, T. F., cited, 4:80, 155; 10:378; 11:109.
- Hunter weevil, 1:254, 256, 301, 305, 310, 313, 318.
- huntera, *Pyrameis*, see *Vanessa*.
Vanessa (syn. *Pyrameis*), 10:507; 14:309⁵.
- Hunting. —, insects from, 10:512.
- Huntington, David, insects from, 5:325.
- Husbandman* [Elmira, N. Y.] cited, 1:127, 149, 247; 3:153; 5:317; 6:182; 14:329¹, 339⁶, 346⁸.
- Hyacinth, cut worms injuring, 8:236.
- hyalina, *Tingis*, see *Corythuca cili-ata*.
- hyalinata, *Eudiotis*, see *Margaronia*.
Margaronia, see *Margaronia hyalinata*.
Phacellura, see *Margaronia*.
Phakellura, see *Margaronia*.
Phalaena, see *Margaronia*.
Pyrallis, see *Margaronia*.
- hyalinatalis, *Phacellura*, see *Margaronia hyalinata*.
- hyalipennis, *Sciara*, 5:265.
- Hyatt, Alpheus, and Arms, J. M., *Guides for science teaching* cited, 10:478; 11:241, 250.
- Hybernia defoliaria, 11:266.
tiliaria, see *Erannis*.
- Hydrachnidae, 5:290.
- Hydroecia (syn. *Gortyna*), 1:115, 305; 9:447; 14:311².
cataphracta (syn. *Gortyna*), 1:115; 10:373-76, 509; 11:284; 12:351; 14:392⁹.
immanis (syn. *Gortyna*), 1:115; 2:35, 41; 10:372-73; 12:351; 14:392⁸.
nictitans (syn. *Gortyna*), 1:115, 340; 10:482.
nitela (syn. *Gortyna*, *G. nebris*), 8:192; 14:322⁷; account of, 1:110-16; 8:191-92; characteristics of its family, 1:113; depredations, 1:112; 2:226; 3:135-36, 148, 149-50; 5:304; 6:168, 176; 7:377; 8:191-92; 10:374; description of stages, 1:113-14; food plants, 1:112; 8:191; natural history, 1:114; reference, 1:305; 3:140; 5:324; 8:112; 10:376, 497, 509; 14:326¹, 326³, 332³, 335⁷, 345³, 345⁸, 354, 360⁶, 382⁴; remedies, 1:115-16; species allied, 1:115.
rutila (syn. *Gortyna*), 1:115.
stramentosa (syn. *Gortyna*), 1:115.
u-album (syn. *Gortyna purpuripennis*), 1:115.
velata (syn. *H. sera*, *Gortyna sera*), 1:115, 340; 10:482.
- Hydrophilidae, 4:182.
- Hydrophilus triangularis, 6:188; 8:298.
- hyemalis, *Anopheles*, see *A. punctipennis*.
Boreus, 2:236.

- hyemalis, *Culex*, see *Anopheles punctipennis*.
Gryllus, see *Boreus*.
Panorpa, see *Boreus*.
Trichocera, 2:243.
Hylastes trifolii (syn. *Hylastinus obscurus*, *Hylesinus*), 1:8, 54, 247; 6:178; 7:335, 378; 14:323³, 326⁹.
Hylastinus obscurus, see *Hylastes trifolii*.
Hylemyia antiqua, 1:180, 202.
antiqua (syn. *Anthomyia*), 1:171, 179, 180, 202.
deceptiva, see *Phorbia fusciceps*.
similis, see *Anthomyia*.
species, 1:171, 180, 202.
tarsata, 1:171.
Hylesinus opaculus, 4:144, 145; 7:352; 9:367; 14:350², 357⁹.
trifolii, see *Hylastes*.
hyllus, *Dynastes*, 7:249, 250.
Hylotoma pectoralis, 12:359.
Hylotrupes bajulus, 4:20, 23.
Hylurgops, 2:55.
Hylurgus rufipennis, see *Dendroctonus*.
Hymenopsyche coniferarum, see *Thyridopteryx ephemeraeformis*.
Hymenoptera, classification, 1:78; 4:167, 190; 8:300; contributions of, 3:140; 4:205; 5:324; 6:186; 8:296; 9:461; 10:509, 515; 11:284; 12:359; delayed pupation in, 1:138; depre-
dation on apple tree, list of, 1:330; 11:264; *Gordius* a parasite of, 4:126; number of species, 4:165, 181; oviposition of, 1:74; parasitic, 1:110, 187; pyrethrum affecting readily, 1:40; reference, 1:161; 4:48; 10:360, 403, 475; sense organs of, 4:180; sexual characters in, 1:172; species treated, 2:217-21; 4:27-46; 5:164-73; 6:109-11; 7:223-24; 8:163-69; 9:335-36, 431; 10:365-69; 11:109-24; 12:181-82; 13:325²-42⁹; studies in, 1:19; 4:10.
Hymenorus obscurus, 1:331; 2:226; 6:129; 11:269; 14:332³, 367⁹.
Hyoscyamus niger, see *Henbane*.
Hypera erectalis, see *H. scabra*.
humuli, 7:375; 14:321⁷.
scabra (syn. *H. erectalis*), 9:454; 14:312³.
Hypera, 1:248.
rumicis, see *Phytonomus*.
hyperborea, *Platartia* (syn. *P. parthenos*), 9:452; 14:312³.
Hyperchiria io, see *Automeris*.
varia, see *Automeris io*.
Hypericum, *Homoptera lunata* on, 4:58.
Hyperplatys maculatus, 1:331; 6:188; 11:269.
Hyphantria cunea, 1:57, 306, 328; 2:83; 3:93; 9:295, 422; 11:264.
punctata, see *H. cunea*.
species, 11:264.
textor, see *H. cunea*.
Hypocala hilli, 7:375; 14:321⁷.
Hypoderma bonassi, see *H. lineata*.
bovis, erroneous reference of *H. lineata*.
bovis (syn. *Oestrus*), of Europe, 6:111-14; 13:364⁵; 14:349³, 367⁷, 396³.
lineata (syn. *H. bonassi*, *H. bovis* in error), 1:299; 6:111-12, 114-15; 13:364⁵; 14:349³, 367⁷, 396³.
hypophlaeas, *Chrysophanus*, see *Heodes*.
Heodes (syn. *Chrysophanus*, *C. americanus*), 3:108; 4:137; 5:285.
Hypoprepia fucosa, 12:360.
Hypopus, 11:256, 257, 258.
Hypothenemus dissimilis, 11:270.
erectus, 11:270.
eruditus, 11:270.
Hyppa xylinoides, 4:138; 10:482; 14:357⁹.
Hypsopygea costalis, see *Pyrallis*.
Hystriicia abrupta, see *Bombyliomyia*.
vivida, see *Bombyliomyia abrupta*.
icelus, *Nisoniades*, see *Thanaos*.
Thanaos (syn. *Nisoniades*), 1:335, 336, 337; 6:180; 7:375; 9:449; 14:306³, 311⁷, 321⁴, 327⁷.
Icerya purchasi, 4:187, 188; 5:326; 6:104; 7:340; 8:275; 11:271.
Icerya scale and parasite, 7:360.
iceryae, *Lestophonus*, 6:105.
Ichneumon flies, 1:78, 84, 101, 145, 176, 187, 308, 313; 4:188, 201; 8:275; 11:138, 156; 12:210.
Ichneumon caeruleus, 7:228.
flavizonatus, 12:211.
hordei, see *Isosoma*.
leucaniae, 12:211.
lunator, see *Thalessa*.
signatipes, 7:228.
Ichneumonidae, attacked by *Entomophthora sphaerosperma*, 7:316; beneficial habits of, 4:85; 8:275; on flowers, 5:284; parasitic on bag worm, 1:85; parasitic on plant lice, 1:302; parasitic on red humped apple tree caterpillar, 3:90; parasitic on vagabond *Cram-*

- bus, 1:145; species treated of, 1:85, 145; 4:35-42; 8:163-66.
aphidivorous, 5:253.
Ichthyura inclusa, see *Melalopha*.
vau, see *Melalopha apicalis*.
icoriae, *Scolytus*, 4:107.
Icterus galbula, see *Baltimore oriole*.
Idiocerus, 9:396.
 alternatus, 9:399, 410.
 lachrymalis, 9:398-99.
 maculipennis, 9:399.
 pallidus, 9:399.
 suturalis, 9:399.
 verticis (syn. *Jassus*), 9:410.
ignota, *Monostegia*, 9:431.
Illiger's Magazin für Insektenkunde cited, 10:387.
Illinois industrial university, course in entomology at, 12:344.
Illinois state agricultural society, *Journal* cited, 2:139; *Transactions* cited, 2:148; 4:158.
Illinois state department of agriculture, *Transactions* cited, 2:148; 4:158; 7:225; 8:129; 11:146. See also *Insects of Illinois*.
Illinois state horticultural society, *Transactions* cited, 5:201; 8:129; 11:126; 13:352⁴.
Illinois state laboratory of natural history, *Bulletin* cited, 4:80; 5:207; 11:233; 12:293.
Imatisma posticata, see *Mallota*.
Imbricated snout beetle, 1:331; 11:269.
imbricator, *Eriosoma*, see *Pemphigus*.
 Pemphigus (syn. *Eriosoma*, *Schizoneura*), 3:123-26, 142, 152, 153; 9:408, 411, 412; 12:355, 363; 14:346³, 352⁴, 394⁶.
 Schizoneura, see *Pemphigus*.
imbricatus, *Epicaerus*, 1:331; 11:269.
imbricornis, *Prionus*, 1:330; 11:268.
immaculata, *Cistogaster*, 12:210.
immaculatus, *Myrmeleon*, 7:318, 384; 9:440; 11:236, 237, 238, 240; 14:374⁵.
immanis, *Gortyna*, see *Hydroecia*.
 Hydroecia (syn. *Gortyna*), 1:115; 2:35, 41; 10:372-73; 12:351; 14:392⁸.
immunis, *Sphenophorus*, see *S. placidus*.
impatiens, *Culex*, see *C. conso-brinus*.
imperatoria, *Phalaena*, see *Basilona*.
 imperialis.
Imperial moth, 13:342⁶-51³; 14:400⁴.
 See also *Basilona imperialis*.
imperialis, *Attacus*, see *Basilona*.
 Basilona (syn. *Ceratocampa*, *Citheronia*, *Dryocampa*, *Eacles*), 2:232; 4:20, 21; 5:324; 9:447, 462; 10:481; 12:360; 13:342⁶-51³; 14:310⁷, 312¹, 334⁶, 400⁴.
 Ceratocampa, see *Basilona*.
 Citheronia, see *Basilona*.
 Dryocampa, see *Basilona*.
 Eacles, see *Basilona*.
impiger, *Culex* (syn. *C. implacabilis*), 12:321.
implacabilis, *Culex*, see *C. impiger*.
implicita, *Lachnosterna*, 9:355.
impressus, *Julus*, see *Parajulus*.
 Parajulus (syn. *Julus*), 3:132.
impunctatus, *Cixius*, see *Myndus*.
 Myndus (syn. *Cixius*), 9:386, 410.
inaequalis, *Craponius*, 2:33; 8:286, 299; 9:364, 365; 10:498; 14:372⁸, 383⁷.
incertum, *Elaphidion*, 11:284.
incertus, *Melanotus*, see *M. decumanus*.
Inch plant, *Aramigus fulleri* on, 2:143.
Inch worms, 2:98.
Inchbald, P., referred to, 4:205, 206; 11:163, 165.
Incisalia irus (syn. *Thecla*, *T. arsace*, *T. henrici*), 3:140; 4:137; 9:449; 11:254; 14:311⁸.
inclusa, *Ichthyura*, see *Melalopha*.
 Melalopha (syn. *Ichthyura*), 9:450.
inconstans, *Molobrus*, see *Sciara*.
 Sciara (syn. *Molobrus*), 10:387.
incrassata, *Phora*, 10:405.
Incurvaria acerifoliella (syn. *Ornix*), 1:308; 5:215-19; 9:458; 14:314⁵.
 iridella, see *I. acerifoliella*.
incurvus, *Tachys*, 5:303; 14:354².
inda, *Cetonia*, see *Euphoria*.
 Euphoria, see *Euphoria inda*.
 Euryomia, see *Euphoria*.
 Trichius, see *Euphoria*.
Independent [New Paltz, N. Y.] quoted, 12:196.
Indian cetonia, 1:232-39, 330; 8:295; 9:443; 10:504; 11:268; 14:336².
 See also *Euphoria inda*.
Indian meal moth, 11:267.
Indiana farmer and gardener cited, 2:102.
Indiana horticultural society, *Transactions* cited, 13:352⁶.
Indiana state board of agriculture, *Report* cited, 12:191.

- indigenella, *Mineola* (syn. *Phycis*), 1:329; 10:515; 11:121, 266.
Phycis, see *Mineola*.
indistinctus, *Macrops*, 10:517.
indivialis, *Tortricodes*, see *Gaberasa ambigualis*.
indus, *Scarabaeus*, see *Euphoria inda*.
Industrialist cited, 7:255; 10:432.
inermis, *Agrotis*, see *Peridroma saucia*.
Smilia, see *Stictocephala*.
Stictocephala (syn. *Smilia*), 1:284; 9:388, 440.
infans, *Brephos*, 7:375; 14:321^s.
infirmia, *Orthodes*, see *O. crenulata*.
inflata, *Zaraea* (syn. *Abia caprifolium*), 1:42.
infuscata, *Chortophaga*, see *C. viridifasciata*.
Locusta, see *Chortophaga viridifasciata*.
infuscatus, *Gomphocerus*, see *Chortophaga viridifasciata*.
Infusoria, *Tyroglyphus* feeding on, 11:255.
Ingalsbe, G. M., insects from, 9:463.
ingeniosus, *Myrmeleon*, 11:238.
Ingram, H. B., insects from, 13:372^s.
inimica, *Cecidomyia*, see *Diplosis*.
Diplosis (syn. *Cecidomyia*), 1:321.
inimicus, *Amblycephalus*, see *Deltoccephalus*.
Deltoccephalus (syn. *Amblycephalus*), 9:401-2, 410.
innumerabilis, *Coccus*, see *Pulvinaria*.
Lecanium, see *Pulvinaria*.
Pulvinaria, see *Pulvinaria innumerabilis*.
inornata, *Atymna* (syn. *Cyrtolobus*, *Smilia*), 1:284; 9:388, 410.
Smilia, see *Atymna*.
Tiphia, 8:238.
inornatus, *Cyrtolobus*, see *Atymna inornata*.
Inquilines, 1:61.
inquinata, *Mantis*, see *Stagmomantis carolina*.
inquinatellus, *Crambus*, 1:150.
inquinatus, *Aphodius*, 3:102-3; 7:379; 14:323^s, 352^s.
inquisitor, *Cryptus*, see *Pimpla*.
Pimpla (syn. *Cryptus*), 1:84.
Insect depredations, excessive, in United States, 1:8; losses from, 1:5; preventives of, 1:63-65; remedies for, 1:56-63; secrecy of, 8:263-64; depredators on the apple tree; list of, 1:327-32; 11:263-72; diseases, cultivation of, 7:341; enemies, how to meet them, 8:258-69; fauna of United States, 4:181; habits, necessity of knowledge of, 1:14; orders, special studies in, 4:164-65; pests, bounties for, 9:436-37.
Insect life cited, 5:216, 220, 227, 234; 7:247, 256, 297, 321, 324; 8:129, 133, 141; 9:300, 301, 309, 317, 318; 10:378, 388, 389, 405, 408, 411, 417, 433, 453, 454, 478, 497; 11:109, 110, 111, 117, 118, 134, 135, 142, 146, 152, 155, 157, 160, 171, 177, 178, 181, 182, 197, 199, 207, 210, 222, 223, 229, 231, 232, 233, 242, 244, 247, 248, 250; 12:183, 191, 192, 193, 218, 230, 235, 248, 254, 268, 272, 273, 290, 291, 292, 293, 317; 13:344², 344⁴, 352^s, 352^o, 353^s, 14:381⁷; quoted, 14:304¹; reprint from, 11:117-22, 249.
Insect pests, number of, 4:188; ravages, how met, 4:189-90; increase of, 4:186; possibility of prevention, 8:268; studies, progress in, 7:331;
pests introduced;
Adelphagrotis prasina (syn. *Agrotis*), 1:8.
Anthrenus scrophulariae, 1:9; 6:175; 7:335.
Aphis brassicae, 6:148.
mali, 1:8.
Aspidiotus perniciosus, 11:206.
Carpocapsa pomonella, 1:8.
Cecidomyia destructor, 1:58, 321.
Cephus pygmaeus, 7:334; 8:167.
Cladius pectinicornis, 10:499.
Crioceris asparagi, 1:8; 5:335; 8:251.
12-punctata, 8:250; 12:251.
Dermestes lardarius, 6:120.
Diplosis pyrivora, 1:8; 7:335; 8:142.
Emphytus cinctus, 10:499.
Galerucella luteola (syn. *Galeruca xanthomelaena*), 5:236; 7:335.
Gossyparia ulmi, 12:293.
Haematobia serrata, 5:222; 7:333; 8:193.
Heliothis armiger, 1:8.
Hylastes trifolii (syn. *Hylastinus obscurus*), 1:8; 7:335.
Icerya purchasi, 7:340; 8:275.
Lygaeonematus erichsonii (syn. *Nematus*), 7:335; 8:169.
Mamestra trifolii, 1:8.
Monomorium pharaonis, 11:110.

Insect pests introduced (*cont'd*)

- Mytilaspis pomorum (syn. *M. pomicorticis*), 1:8.
 Myzus cerasi, 5:254.
 Nectarophora granaria (syn. *Siphonophora avenae*), 1:8; 5:247; 7:335.
 Noctua baja (syn. *Agrotis*), 1:8.
 c-nigrum (syn. *Agrotis*), 1:8.
 pecta (syn. *Agrotis*), 1:8.
 Otiorhynchus singularis (syn. *O. picipes*), 10:419.
 sulcatus, 10:419.
 Peridroma saucia (syn. *Agrotis*), 1:8.
 Phloeotribus liminaris, 5:319.
 Phorbia ceparum (syn. *Anthomyia*), 1:8, 173.
 Phorodon humuli, 1:8; 7:335; 8:207.
 Phytonomus punctatus, 1:251-52; 10:487.
 Pieris rapae, 1:8; 7:335; 8:251.
 Plodia interpunctella (syn. *Ephesia*), 1:8.
 Porthetria dispar (syn. *Ocneria*), 7:335.
 Pteronous ribesii (syn. *Nematus ventricosus*), 1:8; 2:217; 7:335.
 Pyralis costalis, 11:148.
 Sesia tipuliformis (syn. *Aegeria*), 1:8.
 Xyleborus dispar, 9:419.
 Xylophasia arctica (syn. *Hadena*), 1:8.
 Insecticides, general, 4:190-91; 8:274;
 specific;
 arsenites with Bordeaux mixture, 9:435.
 bisulfid of carbon, 1:47.
 borax, 1:343.
 carbolic acid, 1:47-48; 2:27-28.
 carbolic wash, 2:24-26; 27-28.
 carbolized plaster, 7:346.
 cayenne pepper, 2:34.
 coal ashes, 2:24.
 coal oil refuse, 2:27.
 coal tar, 1:50-52.
 gas lime, 1:52-55.
 "gold dust," 9:434.
 gypsum and kerosene, 2:29.
 hellebore, 1:40-43.
 kerosene, 1:43-45.
 kerosene emulsion, 2:36-38; 8:209.
 lime and arsenites, 9:416.
 london purple, 1:34-36; 9:414-15.
 may weed (*Maruta cotula*), 2:34.
 naphthaline, 2:34-35.

Insecticides, specific (*cont'd*)

- ox eye daisy (*Leucanthemum vulgare*), 2:34.
 paraffin oil, 1:46-47, 343.
 paris green, 1:25-34.
 pyrethrum, 1:36-40; 2:26.
 road dust, 2:27.
 saltpeter, 2:28.
 soap powders, 9:434.
 soluble phenyle, 1:48-50.
 sulfur, 2:32.
 tobacco, infusion of, 2:31-32.
 tobacco juice vaporized, 2:29-31.
 See also Remedies and preventives for insect depredations.
 Insects, classification of, 1:78-80;
 studies of, 4:166-69; 8:227; depredations, 1:2-8; 12:341-42; food habits of, 4:186; immense number of, 1:12-14; injurious to orchard and garden, experience with, 7:342; introduced, increased destructiveness of, 1:9-10; introduction from abroad, 4:186; life duration of, 1:339-41; life histories, 1:22; 4:166; 12:342-43; limited knowledge of early stages, 4:181-82; number described, 4:165; 8:266-67; number estimated, 12:342; of national museum, 4:182-83; of past year, 7:331; omnipresence of, 12:343; rapidity of propagation, 8:267; small size of, 8:264-66; some injurious, of Mass. 8:227.
 beneficial introduced; *Clerus formicarius*, 10:500; *Lestophonous iceryae*, 6:105; *Novius cardinalis* (syn. *Vedalia*), 6:105.
 Insects of Illinois, *Report* cited, 1:81, 99, 110, 111, 116, 227, 228, 233, 239, 264, 271; 2:57, 68, 69, 89, 102, 117, 126, 149, 168, 180, 188; 4:20, 80, 114, 155; 5:193, 201, 207, 213, 227, 246, 253; 6:125, 147; 7:255, 277, 321; 8:129; 9:307, 317, 330; 10:388, 408, 453; 11:126, 146, 160, 250; 12:183, 191, 205, 218, 235, 237, 243, 290, 314; 13:343^a, 343^b, 352^c, 352^d.
 Insects of Massachusetts, *see* Packard, A. S., *Report on the injurious and beneficial insects of Massachusetts*.
 Insects of Missouri, *see* Riley, C. V.
 Insects of New York (Fitch), *Report* cited, 1:87, 172, 184, 194, 201, 202, 221, 227, 239, 281; 2:68, 102, 125, 168, 180, 203; 3:133; 4:20, 27, 114; 5:184, 192, 215, 227, 246, 253; 8:152, 153; 9:317; 10:408, 477; 11:109, 203, 248; 12:218, 243, 264, 301; quoted, 11:202.

Insects of New York (Lintner), *Report* abstracts from, 12:351-52, 356-57; *Report* cited, 2:90; 4:20; 5:164, 207, 216; 6:184; 7:242, 247, 256, 296, 321, 324; 8:133, 152, 160, 166, 169; 9:299, 300, 318, 330; 10:378, 388, 408, 416, 433, 454, 478; 11:109, 126, 127, 134, 142, 146, 152, 157, 160, 162, 165, 171, 177, 181, 182, 198, 203, 205, 241, 242, 249, 251, 283; 12:190, 214, 218, 223, 235, 238, 239, 243, 248, 252, 12:253, 264, 265, 268, 273, 290, 292, 314.

Insects received from New York localities;

Adams, 10:518; 11:170, 285, 286; 12:363.

Afton, 4:207.

Albany, 3:140, 141, 142; 4:205, 206, 207, 208; 5:324, 325, 326; 6:187, 188, 189, 190; 7:381, 382, 383, 384; 8:296, 297, 298, 299, 300; 9:461, 462, 463, 464; 10:515, 516, 517, 518, 519; 11:162, 285, 287, 288; 12:359, 360, 361, 362, 363, 364; 13:371¹, 371², 372³, 372⁴, 373², 373³, 373⁴, 374¹, 374², 375², 375³.

Albion, 6:187; 10:516; 12:359, 360.

Alcove, 8:300.

Alder Creek, 13:374².

Alfred, 4:207; 6:187; 7:383; 10:517, 519.

Amenia, 12:360.

Amsterdam, 3:141, 142.

Argyle, 11:186.

Athens, 8:299; 10:516, 517; 11:286.

Ausable Forks, 7:382; 8:297, 300; 9:463; 10:518; 11:197, 286; 12:359; 13:372⁴.

Barkus, 7:382.

Barrytown, 9:462.

Bath, 8:299.

Bayport, 5:325.

Bayville, 5:324.

Beedes, 6:190.

Belleville, 6:190.

Bellport, 5:325; 8:298; 11:285; 12:362; 13:371⁴, 374¹.

Belmont, 4:208.

Bergen, 3:141.

Bethany, 4:206.

Big Flats, 10:519.

Binghamton, 11:284.

Blauvelt, 5:326.

Branchport, 5:325; 6:189.

Brighton, 10:517.

Brockport, 7:382.

Brooklyn, 5:324; 7:384; 9:464; 13:360², 371², 373².

Buffalo, 7:382; 9:463.

Buskirk's Bridge, 8:300.

Insects received from New York localities (*cont'd*)

Cambridge, 9:463; 10:515; 12:359, 360.

Camden, 13:375⁴.

Camillus, 9:464.

Canaan, 9:464; 11:288.

Canajoharie, 4:208; 5:324.

Canandaigua, 4:208; 12:363.

Canastota, 7:382; 8:296.

Carthage, 13:339³, 370¹.

Catskill, 6:188; 8:297; 10:518; 11:287.

Cazenovia, 10:515.

Cedar Hill, 13:372¹, 374².

Central Bridge, 6:187.

Chatham, 4:206; 12:360, 364.

Chatham Center, 7:383.

Cherry Valley, 4:205; 5:324; 325; 8:296.

Clyde, 5:326.

Coeymans, 3:140; 4:205, 206, 207; 5:326; 6:188, 189; 7:382, 383, 384; 8:300; 9:461, 462, 463, 464; 10:519; 11:237, 284; 12:359, 360; 361, 362, 363, 364; 13:371¹, 371², 372³, 373³, 374².

Cooperstown, 3:142.

Corning, 11:284.

Cornwall, 8:298.

Cornwall-on-Hudson, 6:188.

Cortland, 7:383.

Cossayuna, 9:464.

Coxsackie, 6:187; 7:383.

De Freestville, 12:363.

De Kalb Junction, 4:205.

Delmar, 11:285; 12:359.

Demster, 8:297.

Dey's Landing, 7:383.

East Greenbush, 13:374².

East Greenwich, 9:461.

East Hampton, 13:375⁴.

East Hartford, 11:278.

East Worcester, 6:187.

Elmira, 10:516.

Factoryville, 12:362.

Fairmount, 13:375².

Fort Edward, 6:186, 187, 189; 9:462; 12:364.

Garrattsville, 8:300.

Gayhead, 11:285.

Geneva, 4:207, 208; 5:325, 326; 6:186; 7:382, 383, 384; 9:463; 11:205; 12:362; 13:373².

Germantown, 13:374¹.

Ghent, 5:325; 7:382; 10:519; 11:284.

Glen, 9:462.

Glen Cove, 4:207; 6:188; 7:382, 383; 9:461, 464; 10:515, 516; 11:142, 287.

Glenmont, 8:299.

Glens Falls, 6:189.

Insects received from New York
localities (*cont'd*)

Glenville, 10:515.
 Goldenbridge, 11:286; 13:371³.
 Gouverneur, 7:384; 10:516; 11:284, 286; 12:359, 360, 361, 363; 13:374⁵.
 Greenbush, 10:516; 13:344⁸.
 Greenport, 4:208; 6:190; 7:381.
 Haines Falls, 7:381.
 Hamilton, 11:287.
 Howecave, 6:187, 188, 189.
 Hudson, 7:383.
 Ingleside, 10:519.
 Ithaca, 10:515.
 Jamaica, 7:381; 10:517; 11:287; 13:371³.
 Jefferson, 8:298.
 Jewett, 13:372².
 Johnson Creek, 4:205.
 Johnstown, 6:189.
 Karner, 11:288.
 Kinderhook, 7:383; 10:518; 11:287.
 Kingsbury, 6:186.
 Kingston, 5:324, 326; 8:299; 13:372².
 Knox, 7:381.
 Lake Grove, 5:326.
 Lansing, 8:297; 11:285.
 Lawrence, L. I., 7:384.
 Le Roy, 10:516.
 Lincoln, 8:297.
 Lockport, 5:325; 6:188; 9:464; 10:517; 11:286.
 Loudonville, 4:208; 5:326; 11:208, 287, 288; 12:363.
 Louisville, 11:276.
 Lowville, 10:518.
 Lyndonville, 11:285.
 Macedon, 6:188, 190; 8:297.
 Malcom, 8:297; 10:517.
 Mannsville, 12:362.
 Matteawan, 7:384; 8:299.
 Mayfield, 13:372⁸.
 Maynard, 13:375³.
 Memphis, 4:207.
 Menands, 3:140; 4:205, 207; 6:187, 188; 8:298, 299; 10:518; 11:285; 12:359, 361.
 Meridian, 6:186.
 Mexico, 9:462.
 Middlehope, 4:206; 5:326.
 Middletown, 12:360, 362, 363.
 Middleville, 6:188.
 Millbrook, 11:278, 285.
 Monticello, 9:464; 11:286.
 Moriches, 4:205, 206; 6:188; 9:463.
 Mt Riga, 10:517.
 Mountainville, 11:285.
 Naples, 7:381.
 New Baltimore, 9:462; 10:518; 11:288.

Insects received from New York
localities (*cont'd*)

New Paltz, 9:463; 13:374⁹.
 New York, 3:141; 4:207, 208; 5:324, 326; 6:188; 7:382; 8:296; 9:461, 462; 10:517, 518; 11:157, 286; 12:363; 13:373⁴, 374⁴, 374⁹.
 Newburgh, 4:206; 10:516, 519.
 Newport, 8:298.
 Niagara, 3:140.
 Niverville, 7:383.
 North Blenheim, 6:190.
 North Hillsdale, 13:358³, 372⁴.
 Nunda, 9:463.
 Nyack, 10:518.
 Oakfield, 7:382.
 Osceola, 6:189.
 Oswego, 4:207; 8:296, 297; 9:461; 10:515; 13:373⁷.
 Palenville, 11:237.
 Palmyra, 8:297.
 Pawling, 6:187.
 Peekskill, 6:190.
 Penn Yan, 3:142; 6:188; 8:299.
 Pine Plains, 12:360.
 Pittstown, 9:462.
 Plattsburg, 8:298.
 Pleasant Plains, 10:518; 11:273.
 Port Ewen, 7:381.
 Port Henry, 7:383.
 Port Jervis, 3:140; 8:298, 299.
 Port Kent, 11:282; 12:359.
 Potsdam, 6:189.
 Poughkeepsie, 10:516, 518; 11:278, 284, 285, 287; 12:359, 360, 362, 363; 13:367⁵.
 Racket River, 13:367⁹.
 Ransomville, 7:382.
 Rensselaer, 13:344⁸.
 Rhinebeck, 7:381, 384.
 Richford, 11:286.
 Rochester, 3:141; 4:206; 5:324, 325, 326; 6:190; 7:381, 384; 8:298; 11:205, 285, 288; 13:371⁸, 372⁷, 374³.
 Rome, 6:190.
 Roslyn, 6:190.
 Sandy Hill, 9:463.
 Saranac Inn, 13:372⁸.
 Saratoga Springs, 5:325; 12:363.
 Saugerties, 10:517.
 Scarsdale, 4:207; 5:325; 8:297, 299; 9:464; 12:363; 13:371⁸.
 Schenectady, 3:142; 4:205; 7:384; 9:462; 10:518, 519; 11:160; 12:361; 13:371⁴.
 Schoharie, 7:382; 8:299.
 Scottsville, 3:140.
 Scriba, 8:299.
 Seacliff, 5:325.
 Seneca, 6:187.

Insects received from New York localities (*cont'd*)

Sherwood, 11:147.
 Sinclairville, 3:141; 9:463; 12:363.
 Somers, 13:374¹.
 Somerset, 5:325.
 South Butler, 12:362.
 South Byron, 8:296, 299; 9:461; 10:515, 518.
 South Hamilton, 11:286.
 South Livonia, 8:298.
 South Salem, 10:515.
 Stamford, 13:372².
 Stockport, 11:288.
 Summit, 6:189; 7:383.
 Syracuse, 10:517; 11:182.
 Tannersville, 12:360.
 Tarrytown, 7:383; 9:461; 10:515; 11:288.
 Tiashoke, 8:298.
 Tribeshill, 8:297.
 Troy, 3:142; 5:324; 13:375¹.
 Ulster county, 13:371¹.
 Urbana, 11:288.
 Utica, 5:325; 6:189; 7:382; 8:298; 9:464; 11:284.
 Vernon, 8:297; 12:362.
 Walcott, 12:360.
 Walworth, 8:297.
 Wappingers Falls, 8:297.
 Watertown, 4:206, 207, 208; 6:188; 13:374⁹.
 Waterville, 5:326.
 Watervliet, 9:461; 13:374⁵.
 Watkins, 4:206.
 Wemple, 12:360.
 West Brighton, 6:189.
 West Somerset, 12:360.
 West Troy, 3:140.
 White Plains, 4:208; 10:516.
 Windsor, 13:374⁴.
 Yaphank, 12:265.
 Yonkers, 13:368⁴.
 received from other localities;
 Abingdon, Va., 4:207.
 Adrian, Mich., 6:189.
 Agricultural college, Mich., 13:372⁹.
 Agricultural college, Miss., 9:462.
 Allendale, Ill., 6:189.
 Arlington, N. J., 11:285, 287, 288; 12:360, 361; 13:373⁵.
 Athens, Pa., 11:287.
 Auburn, Ala., 12:359.
 Baton Rouge, La., 11:287.
 Benson, Ariz., 6:187, 190.
 Berlin, Mass., 12:226; 13:371², 372², 372³, 372⁶, 373³, 374⁴, 374⁸.
 Birds Nest, Va., 4:206, 208; 9:463; 10:518.
 Bradford, Pa., 8:299.

Insects received from other localities (*cont'd*)

Buckland, Va., 9:463.
 Camden, N. J., 11:284.
 Cape May, N. J., 5:326.
 Carlisle, Ark., 10:515.
 Charlottesville, Va., 3:141; 5:326; 6:187, 190.
 Cleveland, Ohio, 4:207.
 Clifton, New Brunswick, 8:298.
 Coffee, Va., 4:208.
 College Park, Md., 9:463.
 Columbia, Ct., 3:140.
 Columbus, O., 11:287.
 Concordville, Pa., 11:285.
 Crozet, Va., 3:140.
 Dedham, Mass., 6:188, 189.
 Detroit, Mich., 10:517.
 Dongola, Ill., 11:286.
 Easton, Pa., 3:140.
 Eaton, O., 11:276.
 Elizabeth, N. J., 5:326.
 Falls Church, Va., 11:234.
 Forestville, Md., 11:287.
 Fort Wayne, Ind., 11:279.
 Franklin, N. H., 4:207.
 Fulwith Grange, Harrowgate, Eng., 4:205, 206.
 Galena, Ill., 4:205.
 Glasgow, Mo., 7:383.
 Glen Onoko, Pa., 11:237.
 Gordonsville, Va., 7:382.
 Greenville, Ct., 9:462.
 Hackettstown, N. J., 12:352, 361.
 Halifax, Nova Scotia, 8:300.
 Harmony Grove, Ga., 4:207.
 Hartford, Ct., 6:188; 10:516.
 High Bridge, N. J., 9:464.
 Highlands, N. C., 10:517.
 Hightstown, N. J., 5:325.
 Kansas City, Mo., 12:300, 364.
 Kenneth Square, Pa., 4:205.
 Kingston, Pa., 9:464.
 Kingston, R. I., 5:324.
 La Fayette, Ind., 5:325.
 La Grange, Ill., 6:189.
 Lake Comfort, N. C., 10:519.
 Litchfield, Ct., 13:371⁹.
 London, Eng., 8:299.
 Los Angeles, Cal., 7:382.
 Lowell, Mass., 5:326; 8:299; 11:165, 168.
 McGregor, Ia., 11:283.
 Madison, N. J., 12:354.
 Madison, Wis., 7:383; 12:361.
 Magnolia, Mass., 11:178, 286, 288.
 Magnolia, Md., 9:463.
 Meadsville, Pa., 6:188.
 Meriden, Ct., 9:463.
 Middlebury, Vt., 6:188; 11:173.
 Montreal, Can., 4:206; 8:298; 11:286.
 Montrose, Pa., 11:286.

- Insects received from other localities (*cont'd*)
- Morton, Pa., 4:208.
 Mount Holly, N. J., 5:325.
 Muscatine, Ia., 10:518.
 New Brunswick, N. J., 10:516; 11:286; 12:361.
 New Haven, Ct., 7:382.
 New Oxford, Pa., 11:285.
 North Haven, Ct., 7:298.
 Orange, N. J., 4:207; 5:324, 325; 6:186, 187, 188.
 Orlando, Fla., 12:184.
 Ottawa, Can., 8:298; 9:462; 13:372⁵.
 Pendleton, S. C., 11:127.
 Pittsburg, Pa., 3:142.
 Pittsfield, Mass., 7:384; 10:516.
 Pittsford Mills, Vt., 13:372².
 Red Bank, N. J., 7:383.
 Ridgewood, N. J., 3:140, 141.
 Ringwood, Ont., 4:208.
 Rock Hall, Md., 5:324.
 Ruxton, Md., 13:366⁹.
 St Albans, Eng., 7:383.
 St Anthony's Park, Minn., 7:381.
 St Catherines, Ont., 5:326.
 San Domingo, W. I., 11:175; 12:362.
 Sanford, Tenn., 8:299.
 Sargeantsville, N. J., 7:381.
 Slab, Pa., 3:140.
 South Quebec, Can., 7:381.
 Springfield, Mass., 13:374³.
 Sterling, Kan., 4:208.
 Stone Ridge, N. J., 6:189.
 Toledo, O., 5:325.
 Tracy City, Tenn., 12:363.
 Trenton, N. J., 7:383.
 Wabash, Ind., 5:324; 7:381.
 Waterbury, Ct., 7:383; 9:461, 463.
 Wellesley, Mass., 3:141.
 Woodbury, N. J., 9:463.
 Worcester, Mass., 5:325.
 Yosemite Valley, Cal., 8:296.
- insimulans, Ascalaphus, *see* Helicomitus.
 Helicomitus (syn. Ascalaphus), 11:239.
 insolita, Sphinx, 5:317; 14:307⁸, 339³.
 instabilis, Orthosia, *see* Taeniacampa alia.
 instrutana, Sericoris, erroneous reference of Steganoptycha claypoliana.
 insularis, Epeira, 9:464.
 integer, Janus (syn. J. flaviventris, Phylloecus flaviventris), 8:108, 166-68; 9:461; 10:497; 11:284; 12:308; 13:336², 336⁹, 337⁵, 337⁶; 14:382⁵.
 integerrima, Datana, 1:328; 11:264; 12:309; 14:399⁸.
 interjectus, Lasius, 13:371³.
 intermedia, Cucullia, 7:375; 9:450; 14:311⁹, 321⁹.
 intermediella, Gelechia, 11:267.
 interpunctella, Ephestia, *see* Plodia.
 Plodia (syn. Ephestia), 1:8; 4:206; 10:510; 11:267; 12:360.
 interrogationis, Grapta, *see* Polygonia.
 Polygonia (syn. Grapta), 6:187; 8:187, 300; 9:446; 10:508; 14:310⁸, 410⁶.
 var. umbrosa, Polygonia (syn. Grapta umbrosa), 9:446; 10:506.
 interstinctana, Ephippiphora, *see* Grapholitha.
 Grapholitha, *see* Grapholitha interstinctana.
 Stigmonota, *see* Grapholitha.
 Intestinal worm, 9:298.
 invenustum, Simulium (syn. S. pecuarum), 5:314; 14:338³.
 inversa, Lachnosterna, 9:355.
 invitus, Lygus, 7:348; 8:105, 125, 299.
 io, Automeris (syn. Hyperchiria, H. varia), 1:72, 328; 4:206; 5:186; 6:187; 9:450, 453; 10:481; 11:265; 14:312⁴.
 Hyperchiria, *see* Automeris.
 Io emperor moth, 1:328; 11:265.
 Iowa academy of sciences, *Proceedings* cited, 8:152; 10:433; 12:273.
 Iowa agricultural college, *Bulletin* cited, 2:180; 10:453; 13:352⁵; course in entomology at, 12:344.
 Iowa agricultural experiment station, *Bulletin* cited, 10:378; 11:146, 147, 152, 242; 12:193; 13:353³.
 Iowa homestead cited, 1:99.
 Iowa state agricultural society, *Transactions* cited, 12:191.
 Iowa state horticultural society, *Transactions* cited, 2:126, 180; 6:147; 13:352⁵.
 Ipoehus fasciatus, 11:268.
 Ips fasciatus, *see* I. quadriguttatus.
 quadriguttatus (syn. I. fasciatus), 1:330; 6:188; 11:267.
 iricolor, Serica, 1:330; 11:268.
 iridella, Incurvaria, *see* I. acerifoliella.
 Tinea, *see* Incurvaria acerifoliella.
 Iridescent Serica, 11:268.
 Iron weed, Aphis middletonii on, 9:371.
 irresecta, Mylabris, *see* Bruchus obtectus.

- irresectus, *Bruchus*, see *B. obtectus*.
 irritans, *Lyperosia*, see *Haematobia serrata*.
 Pulex, 1:62; 6:173; 14:324³.
 irroratus, *Jassus*, see *Phlepsius*.
 Phlepsius (syn. *Jassus*), 1:331; 9:402, 410; 11:270.
 irus, *Incisalia* (syn. *Thecla*, *T. arsace*, *T. henrici*), 3:140; 4:137; 9:449; 11:254; 14:311⁸.
 Thecla, see *Incisalia*.
 Irvin, E. F., insects from, 12:363.
 isabella, *Aretia*, see *Pyrrharetia*.
 Estigmene, see *Pyrrharetia*.
 Pyrrharetia (syn. *Aretia*, *Estigmene*, *P. californica*, *Spilosoma*), 7:225-28, 368; 9:439; 10:481, 502; 14:369⁴, 374³, 385⁷.
 Spilosoma, see *Pyrrharetia*.
 ischiaca, *Anthomyia*, 1:195.
 Ischnura verticalis, 11:288.
 Isis cited, 1:151; 2:116.
 Isocratus vulgaris, 11:167.
 isomera, *Cladius*, 7:224.
 Isosoma captivum *Howard*, 4:34, 35.
 elymi, 4:32.
 grande (syn. *I. tritici* *Riley*), 4:30, 32.
 hordei (syn. *Eurytoma*, *Pteromalus*), 1:304, 307; 4:11, 27-35, 205; 5:315; 9:458; 14:314⁴, 357³.
 nigrum, see *I. tritici* *Fitch*.
 secale (syn. *Eurytoma secalis*), 4:27, 29.
 tritici *Fitch* (syn. *I. nigrum*, *Eurytoma*, *Pteromalus*), 1:307, 320; 4:27, 28, 29, 30, 32; 5:315; 14:338³.
 tritici *Fitch* (syn. *I. nigrum*, *vitis*, see *Evoxysoma*.
 Isotoma albella, 6:190.
 italicus, *Bittacus*, 10:477.
 Itch mite, 3:129; 5:290.
 Ithycerus noveboracensis (syn. *Curculio*, *Paehyrhynchus schönherri*), 1:300, 331; 11:270.
 Iulus, see *Julus*.
 Ivy, insects injurious to;
 Aspidiotus nerii, 5:278, 317; 6:172; 8:215; 11:204; 14:339⁸.
 Chlorops nasuta, 4:72.
 Icerya purchasi, 4:187.
 scale insect, 1:43; 4:200.
 English, *Aspidiotus nerii* on, 5:279⁵ 11:204.
 German, *Plusia brassicae* on, 2:91.
 Ixodes americanus, see *Dermacentor*.
 Ixodes bovis, see *Boöphilus*.
 cruciaris, 6:158.
 species ? 9:464.
 unipunctatus, 6:158.
 Ixodidae, 5:290.
 Jack, J. G., cited, 5:164; 12:292; 13:353¹; referred to, 12:294.
 Jacobs, J. C., cited, 12:230.
 jaculifera, *Feltia* (syn. *Agrotis tricos*), 9:456; 10:377, 482; 14:316⁶.
 j-album, *Eugonia* (syn. *Grapta*), 4:137; 5:282, 317; 10:507; 14:309⁵, 339⁶.
 Grapta, see *Eugonia*.
 jamaicensis, *Smerinthus*, see *S. geminatus*.
 Jamestown journal quoted, 12:197.
 Jamestown weed, *Thrips tabaci* on, 11:245.
 Janet, C., cited, 11:166.
 Janson, O. E., cited, 7:256; insects from, 8:299.
 Janus flaviventris, see *J. integer*.
 integer (syn. *J. flaviventris*, *Phyllococcus flaviventris*), 8:108, 166-68; 9:461; 10:497; 11:284; 12:308; 13:336², 336³, 337², 337⁶; 14:382⁵.
 Jaques, Alonzo, Cicada chambers in cellar of, 12:283, 284.
 Jasoniades glaucus (syn. *Papilio turnus*), 1:327; 4:136; 7:219; 10:507, 519; 11:264; 12:307; 14:309⁴.
 Jassidae, 9:396, 402; 11:270.
 Jassus acutus, see *Platymetopius*.
 fulvidorsum, see *Phlepsius*.
 irroratus, see *Phlepsius*.
 olitorius (syn. *Coelidia*, *C. subbifasciata*), 9:398, 410.
 verticis, see *Idiocerus*.
 Jay, blue, 5:198.
 Jayne, H. F., cited, 9:300.
 Jenkins, J. M., insects from, 10:510.
 Johnson, C. F., insects from, 5:325.
 Johnson, W. G., cited, 1:116; 5:227; 11:233; 12:193, 248, 254.
 Johnson's *Natural history*, cited, 6:175; 9:299; 14:325⁵.
 Johnstone, J. B., insects from, 4:208.
 Joint worm, 1:8, 224, 225, 226, 300, 304, 307, 308, 320; 4:11, 27-35, 205; 9:458; 14:314⁴, 357³.
 Jordan, Mrs., insects from, 10:516.
 Joslin, E. D., insects from, 5:326.
 Journal [Easthampton, L. I.] quoted, 12:195.
 Judah, S., cited, 2:102.
 juglandifex, *Lecanium*, erroneous reference of *L. prunastri*.

- juglandis, *Aspidiotus*, *see* *Mytilaspis pomorum*.
Corythuca, 4:108.
Cressonia (syn. *Smerinthus*), 10:508; 14:309^o.
Lecanium, erroneous reference of *L. prunastri*.
Smerinthus, *see* *Cressonia*.
Juglans (walnut), *Datana integerima* injuring, 12:309.
cinerea, *see* *Butternut*.
nigra, *see* *Walnut*, black.
rupestris, *Enchenopa binotata* on, 4:203; 14:351⁴.
juglans-regiae, *Aspidiotus*, 11:271; 12:316.
julianus, *Strategus*, 7:249.
Julidae, 2:229; 3:132; 4:132; 10:445-49, 487, 519; 12:300.
juloides, *Gamasus*, 3:134.
Julus (syn. *Iulus*), 1:307; 5:311; 10:451.
americanus, *see* ?*Spirobolus marginatus*.
caeruleocinctus, attacking geraniums, 4:307; attacking potatoes, 3:132, 153; 9:464; 10:445-49, 451, 487, 489; beneath carpets, 5:296; bibliography, 3:133; habits, 2:229; infested with *Uropoda americana*, 7:384; reference, 3:142; 4:208; 5:326; 6:190; 9:199; 10:513; 12:352; 14:333², 337³, 346³, 355⁹, 363⁹, 377⁹, 378⁹, 393²; remedies, 2:229.
complanatus, *see* ?*Polydesmus serratus*.
guttatus, 10:449.
hortensis, *see* *J. caeruleocinctus*.
impressus, *see* *Parajulus*.
marginatus, *see* *Spirobolus*.
multistriatus, *see* *J. caeruleocinctus*.
Jumping cocoon, 6:186.
Jumping galls, 7:309, 310, 364.
Jumping seeds, 4:151-54; 5:315; 7:309, 310.
Jumping spiders, 10:430.
Jumping sumach beetle, 5:271.
June beetle or bug, *see* *May beetle*.
green, 11:268.
June berry, *Aspidiotus perniciosus* on, 11:224.
Juniper plant bug, 10:430-32; 12:352; 14:397⁶.
juniperina, *Pentatoma* (syn. *Cimex*), 10:430-32, 490, 512; 12:352; 14:379³, 393⁹.
juniperinus, *Cimex*, *see* *Pentatoma juniperina*.
Juniperus virginianus, *see* *Cedar*, red.
Junonia coenia, 7:381.
juvenalis, *Nisoniades*, *see* *Thanaos*.
Thanaos (syn. *Nisoniades*), 1:333, 334, 335, 338; 6:180; 7:375.
Kale, insects injurious to;
Plusia brassicae, 2:91.
Thrips tabaci, 11:244.
kalmiae, *Sphinx*, 5:177; 10:508, 515; 14:309⁸.
Kaltenbach, J. H., *Monographie der Familien der Pflanzenläuse. Phytophthires* cited, 5:246. *Pflanzenfeinde aus der Klasse der Insekten* cited, 4:73; referred to, 11:149.
Kansas academy of science, *Transactions* cited, 1:99, 254; 7:255; 11:126, 134, 181.
Kansas agricultural experiment station, *Report* cited, 7:255; 10:432.
Kansas state agricultural college, course in entomology at, 12:344.
Kansas state board of agriculture, *Transactions* cited, 1:227; 10:432.
Kansas state horticultural society, 14:306³; *Transactions* cited, 7:255.
Karr, Joseph, insects from, 13:375¹.
Karraker, J. F., insects from, 11:286.
Katydid, angular winged, 11:271; 13:365⁷; 14:396⁷.
oblong winged, 11:288.
Katydids, 3:135; 4:126; 14:341⁹.
Keene Valley, *Diptera* of, 11:106.
Lepidoptera of, 11:106.
Keeny, N. B. & Son, insects from, 10:516.
Kellicott, D. S., cited, 1:116; 4:114; 12:218; insects from, 11:287.
Kellog, Mrs D. D., insects from, 12:359.
Kellogg, V. L., cited, 10:378, 478; 12:230; *Common injurious insects of Kansas* cited, 10:433; 13:353⁵; referred to, 12:232, 233.
Kemper, B., insects from, 10:518.
Kent, G. H., cited, 11:135.
Kentucky agricultural experiment station, *Bulletin* cited, 12:243; 13:352⁹; *Report* cited, 12:193, 243, 273; 13:352⁹.
Kermes, oak, 14:399⁵.
Kermes galliformis, 12:316-17, 356, 363; 14:395².
Kessler, H. F., referred to, 12:232.
keutzingaria, *Eurymene*, *see* *Plagodis*.
Plagodis (syn. *Eurymene*), 1:329; 11:266.

- Keyes, Addison, insects from, 13: 374^s.
- Kieffer, J. J., cited, 11:166.
- King, —, insects from, 12:364.
- King, H. S., cited, 1:81.
- King, P. W., insects from, 8:299.
- King bird, 2:8; 12:209, 289.
- Kirby, William, cited 5:246; referred to, 12:332, *Fauna boreali Americana* cited, 2:145.
- Kirby, William and Spence, William, *Introduction to entomology* cited, 1:172, 184; 2:102; 10:477; 11:174, 240; 12:229, 322; quoted, 12:322.
- Kirby, W. F., *Synonymic catalogue of Lepidoptera Heterocera* cited, 13: 344^t.
- kirbyii, Otiocerus, 9:386.
- Kirkland, A. H., cited, 12:193, 238, 240, 293; referred to, 12:241, 242, 294.
- Kirkpatrick, John, cited, 10:408.
- Kitchener, F. E., cited, 11:249.
- Klee, W. G., cited, 11:222, 232.
- Knot grass, insects injurious to;
Nephelodes minians var. violans, 1:103, 104.
Peridroma saucia (syn. Agrotis), 5:205.
- Koebele, Albert, cited, 11:233; 12: 193.
- Kolbe, H. J., cited, 2:198.
- Kollar, Vincenz, *Treatise on insects injurious to gardeners, foresters and farmers* cited, 1:172, 239; 8:140.
- Kowarz, Ferdinand, cited, 7:242, 243.
- Krauss, W. C., cited, 8:160.
- Kricogonia lanice, 5:317; 14:306^t, 339^s.
- Krom, S. A., cited, 12:273.
- Kuehn, Ernest, insects from, 10: 512.
- kuhniella, Ephestia, 14:349^s.
- Kyber, J. F., cited, 5:246.
- Laboulbene, Alexander, cited, 10: 416.
- lacca, Carteria, 11:201.
- Lace curtains injured by Anthrenus, 11:173.
- Lace wing fly, 1:79, 302; 2:176; 10: 429; 12:262; larvae of, 13:362^s.
- Lachninae, 9:412.
- Lachnosterna, 1:305; 4:207; 7:254, 369; 9:353, 355; 10:498; 14: 383^t.
affinis, 11:268.
crenulata, 1:330; 11:268.
fraterna, 1:330; 11:268.
fusca (syn. L. quercina), see May beetle.
- Lachnosterna gibbosa, 9:355.
hirticula, 1:330; 9:355; 11:268.
implicata, 9:355.
inversa, 9:355.
micans (syn. L. sororia), 1:330; 11:268.
pilosicollis, see L. tristis.
prunina, 11:268.
quercina, see L. fusca.
rugosa, 9:355; 11:268.
sororia, see L. micans.
species, 11:286; 13:369^s; 14: 398^s.
tristis (syn. L. pilosicollis), 1: 330; 6:176; 7:369; 9:296, 463; 11:268; 14:318^s, 325^s.
- Lachnus abietis, 9:407, 412.
caryae, 5:304.
dentatus, see L. viminalis.
laricifex, 4:195.
populi, see Chaitophorus.
quercifoliae, 9:407, 412.
salicellus, 9:407, 412.
strobi (syn. Eriosoma, Schizoneura), 3:125; 9:409, 411, 412.
ulmi, see Schizoneura.
viminalis (syn. L. dentatus), 3: 152; 11:271.
- lachrymalis, Idiocerus, 9:398-99.
- lacteola, Acidalia, see Eois.
- Eois (syn. Acidalia), 7:375; 14: 307^s, 321^t.
- lactis, Acarus, see Tyroglyphus siro.
- lactucarum, Anthomyia, 1:191.
- Ladd, E. F., cited, 10:377.
- Lady bird, see Lady bug.
- Lady bug, beneficial habits, 11: 282; classification, 1:78; colonizing for plant lice, 1:61; confounded with carpet beetles, 4:196; 6:118; 9:302, 306; food habits, 4:81, 85, 188; importation of, 10:362; odor of, 6:119; poisonous juice secreted by, 1:314; preying on grain aphids, 1:313; 5:249, 257; preying on hop louse, 3: 116, 148; 4:194; preying on plant lice, 1:302, 313; 5:254; 8:275, 284; 10:429; preying on scale insects, 4:200; 5:266-67, 300; 11:203; 12:298; reference, 14:347^s, 348^t, 349^s, 363^s, 390^s; species of, a corn pest, 4:80-83; species treated of, 4:80-84; 6:117-19.
Australian, 7:360, 382.
15-spotted, 5:305; 13:373^s; 14: 354^s, 371^s.
northern, 7:310, 311; 8:126; 9: 440; 14:374^t.
painted, 2:186.

- Lady bug, spotted, 4:80-84; 14:357¹.
 twice stabbed, 2:186; 5:267; 10:501; 11:203; 12:361; 14:385².
 two spotted, 4:12, 195; 6:117-19; 7:375; 9:306, 370; 11:280; 14:320⁷, 367⁸.
- Lady's Thumb, Nectarophora granaria (syn. Siphonophora avenae) on, 5:252.
- Laemophloeus, habits of, 3:100.
- Laemophloeus alternans, 3:100; 14:352⁴.
- Laertias philenor (syn. Papilio), 6:187.
- laeta, Chlorops, of Europe, 4:72.
- laetifica, Cucullia, 7:375; 8:292; 14:307⁷, 315⁷, 321⁸.
- laevis, Canthon, 3:102; 7:382.
- Lafler, W. A., insects from, 10:516; 12:360.
- Lagoa crispata, *see* Megalopyge.
 opercularis, *see* Megalopyge.
- Lamarck, J. B. P. A. de, *Histoire naturelle des animaux sans vertèbres* cited, 9:299.
- Lamb's quarters, Mamestra picta on, 5:209.
- Lamellicorn beetles, 1:54, 69, 71, 228, 234; 3:102.
- Lamenia vulgaris (syn. Poeciloptera), 9:387, 410.
- Lampronota frigida, 1:145.
- Lampyridae, 4:47, 84, 85, 88; 6:219, 316; 8:174; 9:344.
- lanata, Aphis, 9:320.
- lanatus, Diaspis, *see* D. amygdali.
- Lancaster farmer cited, 6:147.
- lanceolata, Enchenopa (syn. Membracis), 1:283.
 Membracis, of South America, *see* Enchenopa.
- Land turtle feeding on Cicada, 12:289.
- Landberg, A. von, insects from, 10:517; 11:182.
- Lander, Benjamin, cited, 10:518; 12:273; discovery of Cicada chambers by, 12:280; observations on Cicada chambers, 12:281, 282-83.
- Landers, C. L., insects from, 4:207.
- Languria mozzardi, 6:184; 14:329⁹.
- lanice, Kricogonia, 5:317; 14:306⁷, 339⁸.
- lanigera, Aphis, *see* Schizoneura.
 Cotalpa, 6:183; 11:268; 14:329⁷.
 Eriosoma, *see* Schizoneura.
 Schizoneura (syn. Eriosoma, E. pyri, Pemphigus pyri), 1:43, 47, 331; 2:35, 181; 3:125; 5:160; 9:407, 408, 411, 412, 413; 11:271; 13:366⁹-67⁹, 397⁸.
- Lansing, Abraham, insects from, 3:142.
- Lansing, Mrs. Abram, insects from, 8:296; 11:288.
- Lansing, J. A., insects from, 10:512, 515, 516.
- Lantern fly, 1:79.
- Laphygma frugiperda, 1:328; 11:265.
- lapidaria, Leucania, *see* L. multilinea.
- Laporte, F. L. de, *Histoire naturelle et iconographie des Coléoptères publiée par monographies séparées* cited, 2:136.
- Lappet moth, California, 11:265.
- Larch, insects injurious to;
 Chermes laricifoliae, 2:184; 8:299.
 strobilobius (syn. C. laricis), 1:46; 2:183, 185, 187.
 Lachnus laricifex, 4:195.
- Lygaeonematus erichsonii (syn. Nematus), 4:16, 205; 5:164-72; 6:172; 7:335, 367; 8:168.
- Melanolophia canadaria (syn. Tephrosia), 4:21.
- Notolophus leucostigma (syn. Orgyia), 2:77.
- Thyridopteryx ephemeriformis, 1:84.
- Tolyte laricis, 1:87; 4:21.
- European, Lygaeonematus erichsonii (syn. Nematus), 5:164, 165.
- Larch lappet, 1:87-89; 4:21; 14:335⁶.
- Larch plant louse, 4:195.
- Larch saw fly, 4:16, 205; 5:164-73; 7:335, 367; 8:168-69; 10:497; 14:362⁸, 368⁸, 382⁸.
- lardarius, Dermestes, *see* Dermestes lardarius.
- Larder beetle, 6:119; 8:179.
- Largus, margined, 2:164-67.
- Largus cinctus, 2:165.
 succinctus (syn. Capsus), 2:164-67; 6:183; 14:329⁶, 342⁸.
- laricifoliae, Chermes, 2:184; 8:299.
- laricis, Chermes, *see* C. strobilobius.
 Gastropacha, *see* Tolyte.
 Planosa, *see* Tolyte.
 Tolyte (syn. Gastropacha, Planosa), 1:87-89; 4:20, 21; 14:335⁶.
- Tomicus, of Europe, 2:54.
- Larix americana, *see* Larch.
 europaea, *see* Larch, European.
- larvarum, Physogaster, *see* Heteropus ventricosus.
- Lasell, Mrs. E. W., insects from, 4:207; 5:324, 325; 6:186, 187, 188.

- Lasioptera galls, 11:248.
 Lasioptera rubi, of Europe, 4:66.
 vitis, 4:63-67, 206; 5:304, 325; 7:
 376, 382; 10:510; 11:248; 14:
 320⁹, 354³, 354⁶, 357⁷.
 Lasius interjectus, 13:371³.
 nigra (syn. Formica), 10:368.
 species, 11:113.
 Laspeyresia nigricana, 13:372⁵.
 lateralis, Exechia, 8:172.
 Napomyza, 7:246.
 Phytomyza, erroneous reference
 of P. chrysanthemi.
 lateritia, Hadenia, *see* Xylophasia.
 Xylophasia (syn. Hadenia), 10,
 482.
 Lathridius pulicarius, *see* L. ruficol-
 lis.
 ruficollis (syn. L. pulicarius), 6:
 183, 184; 14:329⁴, 330³.
 laticinctus, Hemiteles, 12:211.
 Microdus, 11:156.
 laticollis, Prionus, 1:330; 4:22; 11:
 268; 13:373⁹.
 latiferreana, Carpocapsa, *see* Melli-
 sopus.
 Mellisopus (syn. Carpocapsa),
 4:153.
 latifrons, Helophilus (H. similis in
 error), 4:200; 7:228-34; 8:287, 297;
 9:440, 462; 14:349⁸, 372⁹, 374⁴.
 latipennis, Oecanthus, 5:312; 14:
 337⁴.
 Spilosoma, 9:455; 14:313⁵.
 latipes, Enchophyllum, *see* Campy-
 lenchia curvata.
 latistrius, Crambus, 1:150.
 latitarsus, Anthomyia, 1:171.
 latreillana, Ctenucha, *see* C. vir-
 ginica.
 Latreille, P. A., cited, 5:179;
 7:246; *Die Bearbeitung der In-*
 secten in Cuviers Regne animal,
 cited, 2:102; *Genera Crustaceorum*
 et Insectorum secundum ordinem de-
 posita cited, 8:155, 159; *Histoire*
 naturelle générale et particulière
 des Crustacés et des Insectes cited,
 3:133; 10:404; 11:240.
 Latzel, A., *Myriopoden der Oester-*
 reich—Ungarischen Monarchie cited,
 3:133.
 Laurel, Icerya purchasi on, 4:187.
 Laurent, P., cited, 12:248.
 Lauxania flaviceps, 9:462.
 Lawrence, R. H., insects from, 10:
 516.
 Lawson, George, insects from, 8:
 300.
 Lawton, I. H., observations on
 Cicada, 12:275, 280, 282.
 Lazenby, W. R., cited, 7:256.
 Leaf beetle, three lined, 1:32, 244,
 296; 2:132, 136; 9:457; 10:491; 11:
 286; 14:314¹, 342⁷, 379⁵.
 Leaf bug, four lined, 1:271-81; 4:
 200; 5:274; 10:512; 12:363; 14:
 336³, 350⁴.
 Leaf crumpler, 1:329; 11:121, 266.
 Leaf cutter, 6:186; 12:359.
 Leaf hoppers, destructiveness, 2:
 30; general habits, 8:254; injuri-
 ous to wheat, 6:174; reference,
 14:353³; remedies, 1:45; 2:30, 38;
 4:199; 5:302; 7:345; 8:255, 256;
 spray of cold water for, 7:345;
 spiders preying on, 10:430.
 Leaf miners, attacking hemlock, 4:
 20, 59-60; in beet leaves, 1:203-11;
 in marguerite leaves, 4:73-80;
 number on oak, 1:4; reference, 4:
 20, 207; 5:322; 9:376.
 Leaf mining Anthomyiidae, 2:46,
 225.
 Leaf roller, 1:57; 4:152; 7:355; 9:
 374; oblique banded, 1:329; 7:355;
 11:121, 266; 12:312.
 Leaf tyers, 1:57.
 Learned, W. L., insects from, 9:462;
 11:285.
 Leather beetles, 4:197, 198; 7:311;
 9:440; 14:348⁷, 374⁴.
 Leavell, J. M., cited, 7:247.
 Le Baron, William, cited, 2:148,
 228, 233, 271; 2:68; *Insects of Illi-*
 nois. Report, cited, 1:110, 228,
 233, 271; 2:68, 149, 168; 4:114, 155;
 5:227; 7:255, 279; 9:307, 317; 10:
 408; 12:235, 237.
 Lebia grandis, bibliography, 12:235;
 description, 12:236; distribution,
 12:237; figure of, 12:235; preying
 on potato beetle, 10:496; 12:235-
 37; reference, 14:381⁶, 399⁵.
 Lecanium, 1:301; 7:384; 8:215, 216,
 281; 10:497, 519; 14:370⁸.
 acerella, *see* Pulvinaria innum-
 erabilis.
 acericola, *see* Pulvinaria.
 acericorticis, *see* Pulvinaria in-
 numerabilis.
 aceris, of Europe, 1:310.
 caricae, *see* Pulvinaria innum-
 erabilis.
 fitchii, 10:518.
 hesperidum, 2:32; 7:370; 10:512;
 11:222, 287; 13:374⁷.
 innumerabilis, *see* Pulvinaria.
 juglandifex, erroneous refer-
 ence of L. prunastri.
 juglandis, erroneous reference
 of L. prunastri.

- Lecanium liriodendri*, 9:411.
macluræ Auth, see *Pulvinaria innumerabilis*.
macluræ Kenn, see *Pulvinaria nigrofasciatum* (*L. persicae*, in error), 7:379, 380; 14:323⁴, 323⁷.
oleae, 1:332; 11:271.
persicae, erroneous reference of *L. nigrofasciatum*.
platycerii, 11:222.
pruinoseum, 11:271.
prunastri (*L. juglandis* and *L. juglandifex* in error), 10:518; 11:205-6, 271, 278; 14:389⁶.
pyri, 8:299; 11:271.
salicis (syn. *Coccus*), 9:409, 411, 413.
species, 11:205, 222, 271; 12:363; 14:382⁷.
tiliae, see *L. tulipiferae*.
tulipiferae (syn. *L. tiliae*, *Coccus tiliae*), 9:409, 411, 413; 10:518; 11:222; 13:374⁷.
Le Conte, J. L., cited, 1:247, 254; 2:132, 139; 4:93, 103, 155; 5:231, 234; 9:299, 300; 11:197; 12:243.
Le Conte, J. L. and Horn, G. H., *Rhynchophora of North America north of Mexico* cited, 10:416; 12:269.
Le Conte, J. L., Horn, G. H., and Leidy, Joseph, cited, 7:255.
lecontei, *Callimorpha*, see *Haploa*.
Haploa (syn. *Callimorpha*), 9:455; 11:264; 14:313⁵.
Lophyrus, 1:42; 10:515; 11:284.
lecontella, *Depressaria*, 7:375; 14:321⁹.
lectularia, *Acanthia*, 1:62; 2:17, 152; 9:458; 14:314⁴.
lectularius, *Cimex*, see *Acanthia lectularia*.
Lederer, J., cited, 11:138.
Lee, Henry, insects from, 4:206.
Lee, H. C., insects from, 8:298.
Lee, L. M., insects from, 12:364.
Leeming, H. D., insects from, 7:384.
leguminicola, *Cecidomyia*, see *Cecidomyia leguminicola*.
Leidy, Joseph, *Insects injurious to shade trees*, Report to the council of Philadelphia cited, 6:147.
Leigh, M. J., insects from, 11:286.
leistotrophus cingulatus, see *Listotrophus*.
Leland Stanford jr university, course in entomology at, 12:344.
Lema trilineata (syn. *Crioceris*), 1:32, 244, 322; 2:132-36; 4:142, 207; 7:382; 9:457; 10:491, 517; 11:284, 286; 14:314⁴, 342⁷, 357⁹, 379⁵.
Lema trilineata var. *tripunctata* (syn. *L. tripunctata*), 2:134.
tripunctata, see *L. trilineata* var.
trivirgata, see *L. trilineata*.
Lemon, insects injurious to; *Aspidiotus nerii*, 5:279; 8:215; 11:204.
Heraclides crespontes (syn. *Papilio*), 9:337.
Icerya purchasi, 4:187.
Lempriere, H. L., insects from, 7:382.
Leng, C. W., cited, 4:93.
lenis MS., *Anthomyia*, 1:195.
Lentil, *Bruchus lentis* infesting, 7:285.
Lentil weevil, 7:285, 288; 9:440; 14:374⁹.
lentis, *Bruchus*, 7:285-88; 9:440; 14:374⁹.
Leonard, J. C., insects from, 10:512.
leonardus, *Anthomaster* (syn. *Pamphila*), 9:449; 14:311⁵.
Pamphila, see *Anthomaster*.
Leopard moth, 11:265, 275; 12:360; 14:388².
great white, 12:183-89; 14:399³.
lepida, *Xylina*, 7:375; 14:307⁶, 321⁶.
Lepidoptera, classification, 1:78; 4:167, 190; 8:301; 9:465; collections of, 7:219, 374; 9:450, 459; contributions of, 4:205-7; 5:324; 6:186-87; 7:381-82; 8:296-97; 9:461-62; 10:509-10, 515-16; 11:284, 285; 12:359, 360; dates of collection of, 10:481-83; 14:393⁴; delayed pupation in, 1:137-38; depredating on hemlock, 4:20-22; depredators on the apple tree, list of, 1:327-30; 11:264-67; 14:311⁹; descriptions and notes of, 1:333; larvae of, living in pitch, 4:19; new sexual character in pupae of some, 2:213; 14:336⁷, 343²; number of species of, 4:165, 181; reference, 1:17, 22, 65, 320; 10:359, 463, 507; 11:106; 12:352; sense organs of, 1:69-71; 4:180; species treated of, 1:81, 167, 333-41; 2:57-110; 3:93-96; 4:48-60, 151-54; 5:174, 221, 258-62; 7:225-28, 302-7; 8:129-40; 9:336-42; 10:369-86; 11:126-62, 289; 12:183-222; 13:342⁶-51³; studies in, 4:11, 164.
Lepidosaphes conchiformis, see *Mytilaspis pomorum*.
lepidus, *Anthrenus*, see *A. scrophulariae* var.
Lepinotus piceus (syn. *Clothilla*), 2:201.

Lepisma domestica, *see* *Thermobia*
furnorum.
species, 10:513; 11:252, 13:375^a.
Lepismatidae, 1:79; 2:207.
Leptidae, 4:174.
Leptocoris trivittatus, abundance,
 10:435; bibliography, 4:156; 10:
 432, 433; cannibalistic habits, 10:
 434, 435; contributions of, 4:208;
 11:287; description, 4:157; distri-
 bution, 4:158; 10:436, 437; food
 plants, 4:157, 158; food supply,
 10:436; habits, 10:438; reference,
 4:193; 10:503, 505; 11:270, 283;
 12:352; 14:347^a, 358², 385³, 387²,
 391¹, 393¹; remedies, 10:438, 439;
 spread, 10:433, 434, 437.
Leptocoris trivittata, *see* *Lepto-*
coris trivittatus.
Leptodesmus, 14:391¹.
falcatus, 12:300-3; 13:375⁵; 14:
 308⁷.
Leptoglossus oppositus, 3:141, 153;
 14:346⁷.
phyllopus, 1:268; 3:153; 14:346⁷.
Leptostylus, prickly, 1:304, 331; 11:
 268.
spotted, 11:269.
Leptostylus aculiferus, 1:304, 331;
 11:268.
macula, 11:269.
Leptura canadensis, 4:20, 23.
scalaris, *see* *Bellamira*.
Lepturges facetus (syn. *Liopus*), 1:
 331; 11:269.
Lepyronia, 4:120; 5:245.
parallela, *see* *Aphrophora*.
quadrangularis (syn. *Aphro-*
phora), 1:285; 4:121; 5:245, 9:
 393.
saratogensis, *see* *Aphrophora*.
Lestophonus iceryae, 6:105.
 Letchworth, William, insects from,
 10:513.
 Lettuce, insects injurious to;
Peridroma saucia (syn. *Agrotis*),
 5:205.
Plusia brassicae, 2:91.
simplex, 10:487; 14:378².
Poecilocapsus lineatus, 1:277.
 Lettuce fly, 1:191.
Leucania, 1:71; 9:457.
albilinea, 4:56; 8:291; 10:482,
 490, 509; 12:310, 356; 13:372³;
 14:315³, 379³, 379³, 395².
harveyi, *see* *L. albilinea*.
lapidaria, *see* *L. multilinea*.
multilinea (syn. *L. lapidaria*),
 1:340.
pallens, 1:340; 4:206.
phragmitidicola, 1:340.
pseudargyria, 1:340; 10:482.

Leucania species, 14:314².
unipuncta, bibliography, 12:190-
 94; description of various
 stages, 12:200-2; figures,
 12, plates, 2, 3, and 4, fig. 2;
 food habits, 12:205-6; life
 history and habits, 12:202-5,
 207; natural agents control-
 ling, 12:208; number of genera-
 tions, 12:206-7; parasites,
 1:146; 7:376; 12:209-11; pre-
 daceous enemies, 12:208-9;
 preventives and remedies, 12:
 211-14; pupation, 12:206;
 ravages in New York state,
 12:194-98, 199, 309-10; rav-
 ages in other states, 12:198;
 reference, 1:100, 131, 134; 2:
 43; 6:176; 7:373; 8:293; 10:
 482, 490, 519; 12:352, 353, 356,
 360; 14:316³, 320³, 322², 325¹,
 379³, 393³, 393³, 394¹, 394²,
 395², 399³; remedies, 1:33, 53,
 58; 12:211-14.
leucaniae, *Carcelia*, *see* *Winthemia*
4-pustulata.
Ichneumon, 12:211.
Nemoraea, *see* *Winthemia 4-*
pustulata.
Leucanthemum vulgare, *see* *Daisy*,
ox eye.
Leucopis griseola, 11:164.
leucopterus, *Blissus*, *see* *Blissus*
leucopterus.
Lygaeus, *see* *Blissus*.
Micropus, *see* *Blissus*.
Rhyparochromus, *see* *Blissus*.
leucostigma, *Notolophus*, *see* *Notol-*
ophus leucostigma.
Orgyia, *see* *Notolophus*.
leucozonata, *Glypta*, 11:156.
 Lewis, P. C., insects from, 11:287.
 Lewis, Richard, insects from, 9:462.
libatrix, *Gonoptera*, *see* *Scoliopteryx*.
Scoliopteryx (syn. *Gonoptera*),
 1:340; 8:109, 171-72; 9:450,
 456; 10:497; 14:313⁷, 382⁶.
Libellulidae, 2:178, 213.
liberta, *Chalcophora*, 11:285.
Liburnia arvensis (syn. *Delphax*),
 9:386, 410.
 Lichens, insects on;
Megilla maculata, 4:81.
Psocus venosus, 1:161.
Licorice (extract), *Sitodrepa panicea*
in, 4:92.
 Life zones, range of insects limited
 by, 11:179, 180; upper austral,
 11:102, 180, 181.
ligata, *Lioderma* (syn. *Pentatoma*),
 4:20, 25; 10:432.
Pentatoma, *see* *Lioderma*.
Systema, *see* *S. taeniata*.

- Lightning bug, 1:78; 4:85; 11:175.
 ligneus, *Otiiorhynchus*, *see* *O. ovatus*.
 lignicolor, *Hadena*, *see* *Xylophasia*.
 Xylophasia (syn. *Hadena*), 9:456; 14:316⁶.
 ligniperda, *Cossus*, erroneous reference of *Thyridopteryx ephemeriformis*.
Ligyryus relictus, 4:204; 8:298; 10:506; 12:313; 14:341⁸, 387⁸.
 Lilac, insects injurious to;
 Mytilaspis pomorum, 7:384; 10:518; 11:287.
 Podosesia syringae, 9:461.
 Promethea moth, 1:70.
 Lily, insects injurious to;
 Hydroecia nitela (syn. *Gortyna*), 1:112; 8:191.
 Leptocoris trivittatus, 10:433.
 Myriapoda, 9:371, 372, 441.
 limacina, *Eriocampoides* (syn. *Selandria cerasi*), 1:42, 60; 9:335; 14:375², 383⁶.
 Limacodes, delayed pupation, 1:137.
 pithecium, *see* *Phobetron*.
 scapha, *see* *Eulimacodes*.
 limbata, *Ania* (syn. *Nematocampa filamentaria*), 3:136; 4:206; 9:456; 11:266; 14:313⁷.
 limbatus, *Brachytarsus*, 2:141.
 Lime, scale insect on, 1:43.
 Lime tree winter moth, 1:329; 11:266.
 limenitidis, *Apanteles*, 12:210.
 Limenitis arthemis, *see* *Basilarchia*.
 disippus, *see* *Basilarchia archippus*.
 ursula, *see* *Basilarchia astyanax*.
 liminaris, *Phloeotribus*, *see* *Phloeotribus liminaris*.
 limitata, *Pandemis*, 10:483.
 Limneria fugitiva (syn. *Banchus*), 1:320; 2:41; 3:90, 140, 150; 5:198; 7:381; 14:346¹, 352⁸.
 oxylus, 12:211.
 Limnophilidae, 6:189.
 Limnophilus, 7:316.
 Limnophora species, Chernes on, 3:142.
 Limonius agonus, 11:285.
 auripilis, 7:351.
 confusus, 6:188; 7:351, 361; 13:373⁸; 14:365⁶.
 4-maculatus, 7:351.
 Limotettix exitiosa (syn. *Cicadula*), 6:174; 14:324⁵, 324⁸.
 Limothrips, 11:247.
 poaphagus, 5:153.
 species, erroneous reference of *Thrips tabaci*.
 tritici, erroneous reference of *Thrips tabaci*.
Lina scripta, *see* *Melasoma*.
 tremulae, *see* *Melasoma*.
 linceci, *Cermatia*, *see* *Scutigera*.
 Lincecum, Gideon, cited, 1:264.
 Lindemann, K., *Die am Getreide Lebenden Thripsarten Mittelrusslands* cited, 11:249; *Schädlichsten Insekten des Tabak in Bessarabien* cited, 11:242.
 Linden, insects, etc., injurious to;
 Aspidiotus perniciosus, 11:223.
 Chrysobothris femorata, 6:197.
 Clastoptera obtusa, 8:152, 299.
 Ennomos subsignarius, 1:229; 2:76.
 gall mites, 10:457.
 Lecanium tulipiferae (syn. *L. tiliae*), 9:411, 413.
 Mytilaspis pomorum, 11:202.
 Notolophus leucostigma (syn. *Orgyia*), 2:76, 77.
 Phymata wolffii (syn. *P. erosa*), 3:109.
 Plagionotus speciosus, 11:280.
 Pulvinaria innumerabilis, 6:142, 143.
 Sciara tilicola, 5:265.
 Thyridopteryx ephemeriformis, 1:84.
 Linden borer, 12:245.
 Linden moth, snow white, 1:329; 2:76; 11:266.
 linearis, *Coreus*, *see* *Lygus pratensis*.
 Gordius, 4:125.
 Phytocoris, *see* *Lygus pratensis*.
 lineata, *Cercopis*, *see* *Ptyelus lineatus*.
 Chlorops, of Europe, 1:226; 4:72.
 Cicada, *see* *Ptyelus lineatus*.
 Deilephila, 1:119, 327; 5:175; 9:451; 10:508, 519; 11:264; 14:309⁷.
 Hypoderma (syn. *H. bonassi*, *H. bovis* in error), 1:299; 6:111-12, 114-15; 13:364⁶; 14:349⁶, 367⁷, 396⁶.
 lineatella, *Anarsia* (syn. *A. pruinella*), 1:151-56; 6:173; 7:369, 375; 11:267; 14:316⁶, 318⁴, 320⁸, 324³, 335⁶.
 lineatus, *Agriotes*, of Europe, 1:46.
 Lygaeus, *see* *Poecilocapsus*.
 Lygus, *see* *Poecilocapsus*.
 Phytocoris, *see* *Poecilocapsus*.
 Poecilocapsus (syn. *Capsus* 4-vittatus, *Lygaeus* *Lygus*, *Phytocoris*, *P. bellus*, *P. 4-vittatus*), 1:271-81; 4:200; 5:273; 10:512; 11:284; 12:363; 14:336⁸, 349⁷, 350⁴, 363⁴.

- lineatus, *Ptyelus* (syn. *Cercopis*, *Cicada*), 4:120; 5:245; 7:383; 14:357⁷.
Sitona (syn. *Sitones*), European pea weevil, 1:49.
Sitones, see *Sitona*.
Xyloterus (syn. *X. bivittatus*), 2:54.
- lineola, *Hesperia*, see *Thymelicus*.
Tabanus, 9:462.
Thymelicus (syn. *Hesperia*), 4:127.
- lineolaris, *Lygus*, see *L. pratensis*.
Phytocoris, see *Lygus pratensis*.
- lineolata, *Catabena* (syn. *Adipophanes miscellus*), 10:482.
var. *cerasi*, *Cremastogaster* (syn. *C. cerasi*), 10:365-66, 491; 14:379⁴.
- Linnaea entomologica* cited, 11:162, 164.
- Linnaean scientific association of New Jersey state normal school, 14:306².
- Linnaean society, *Journal* cited, 11:240; *Transactions* cited, 5:246; 11:240.
- Linnaeus, Carolus, *Amoenitas Academiæ* cited, 8:155; *Fauna Suecica* cited, 1:191, 239; 4:120; 9:299; *Museum S. R. Ludovicæ Ulricæ Reginae* cited, 1:232; 11:174; *Systema naturæ*, cited, 1:191, 232; 2:164; 167, 187, 198, 208; 3:133; 4:101, 120, 158; 5:227, 234; 8:155, 159; 9:299; 10:416, 430; 11:109, 134; 12:248; 13:351⁴.
- Linsley, J. G., insects from, 8:296, 297; 10:515; 13:373¹.
- Lintner, J. A., bibliography of entomologic publications, 14:308⁸-400⁵; cited, 1:81, 99, 111, 116, 127, 149, 152, 157, 163, 207, 216, 221, 228, 233, 239, 247, 254, 264, 281; 2:57, 69, 90, 97, 118, 142, 145, 149, 165, 180, 188, 208; 4:28, 36, 57, 63, 80, 103, 115, 128, 151, 155, 156, 159; 5:164, 184, 193, 201, 207, 213, 216, 220, 227, 231, 234, 246; 6:147; 7:225, 228, 256, 296, 321; 8:129, 141, 152; 9:299, 300, 307, 309, 318, 330; 10:378, 388, 408, 411, 416, 433, 454, 478; 11:109, 127, 134, 146, 152, 160, 162, 165, 177, 182, 233, 241, 242, 249; 12:190, 214, 218, 230, 235, 238, 243, 248, 253, 264, 265, 268, 273, 290, 292; 13:338⁸, 340⁸, 343⁴, 352²; memberships in learned societies, 14:305²-6⁵; new species described by, 14:306⁵-8⁷; notice of life, 14:303¹-5¹; publications, lists of; 3:142-54; 4:193-204; 5:299-323; 6:165-85; 7:357-80; 8:278-89, 290-95; 9:439-45, 446-59; 10:484-506, 507-8; 11:272-83; 12:347-57; 13:364¹-70⁹; 14:308⁷-400⁵; *Annual address of the president of the Entomological club of the American association for the advancement of science*, 4:172 83; *Entomological contributions* cited, 1:99, 116; 2:213; 4:57; 5:184, 193, 201, 207; 8:290; 9:299, 300, 448, 449, 450, 451, 452, 453, 455, 456, 457; 13:343⁴, 348⁹; 14:306⁸, 306⁷, 306⁸, 307¹, 307², 307³, 307⁵, 307⁶, 307⁷, 307⁸, 307⁹, 311⁵, 312¹, 313¹, 319³, 321¹; *Descriptions and notes of Lepidoptera*, 1:333-41; *Description of a new species of Eudamus*, 1:338-39; *Entomological reports of Dr Asa Fitch*, 1:291-325; *Insect depredators upon the apple tree*, 1:327-32; 11:263-72; *Insects of New York, Report* cited, 2:90; 4:20; 5:164, 207, 216, 234; 6:184; 7:242, 247, 256, 296, 321, 324; 8:133, 152, 160, 166, 169; 9:299, 300, 318, 330; 10:318, 388, 408, 416, 433, 454, 478; 11:109, 126, 127, 134, 142, 146, 152, 157, 160, 162, 165, 177, 182, 241, 242, 251; 12:190, 214, 218, 235, 238, 243, 248, 253, 264, 265, 268, 273, 290, 292; 13:340⁸, 343⁴, 352², 360⁶, 360⁹; 14:307⁸, 308¹, 308², 308³, 308⁴, 308⁶, 308⁷, 327⁴, 330², 335³, 352²; *Late experiences with insects injurious to the orchard and garden*, 7:342-56; *Mosquito*, 12:319-35; 14:399⁶; *New sexual character in pupae of some Lepidoptera*, 2:213-17; *On an egg parasite of the currant saw fly*, 2:217-21; *On some species of Nisoniades*, 1:333-37; *On the life duration of the Heterocera (moths)*, 1:339-41; *Our insect enemies and how to meet them*, 8:258-77; 14:360³; *Plea for entomological study*, 12:336-45; 14:399⁶; *Present state of entomological science in United States*, 4:163-72; *Report of the Committee on entomology* (West. N. Y. hort. soc.), 9:414-21, 422-37; *Report on some injurious insects of the year 1878*, cited, 1:152, 233; *Some destructive shade tree pests*, 14:388¹; *Some injurious insects of Massachusetts*, 8:227-57; 14:343⁴; *Some pests of the pomologist*, 4:183-92; 14:352⁷; *Winter insects of eastern New York* (Fitch), 2:235-44.
- lintneri, *Tyroglyphus*, 10:452-53; 12:352; 14:393³.
- Lintneria, see *Systasia*.

- Lioderma ligata* (syn. *Pentatoma*), 4:20, 25; 10:432.
- Liopus alpha* (syn. *Sternidius*), 1:331; 11:269.
- facetus*, see *Lepturges*.
- liparops*, *Thecla* (syn. *T. strigosa*), 1:327; 4:137; 7:219; 11:264; 14:357³.
- Liposcelis museorum*, see *Atropos divinatoria*.
- Lipura ambulans*, 2:209.
- fimetaria*, see *Aphorura armata*.
- Lipurinae*, 11:253.
- liriodendri*, *Lecanium*, 9:411.
- Lissonota frigida*, see *Lampronota*.
- Lithacodes fasciola*, see *Tortricidia*.
- lithargyrellus*, *Crambus*, 1:150.
- Lithobius americanus*, see *L. forficatus*.
- forficatus* (syn. *L. americanus*), 4:208.
- Lithocharis*, 4:175.
- Lithocolletis crataegella*, see *L. pomifoliella*.
- curvilineatella*, see *Bucculatrix pomifoliella*.
- fitchella*, 1:156.
- geminatella*, see *Ornix*.
- pomifoliella* (syn. *L. crataegella*), 1:330; 11:267.
- robiniella* (syn. *Argyromiges pseudacaciella*), 1:309.
- Litorea*, *Peridroma saucia* (syn. *Agrotis*) on, 5:205.
- Little, J. P., insects from, 3:140.
- Little, Malcolm, insects from, 8:297; 10:517.
- Little, Mrs S. A., insects from, 8:297; 10:517.
- Little, W. S., insects from, 8:298.
- Livia femoralis*, 9:404, 411.
- vernalis*, 9:404, 411.
- lividipennis*, *Homalota*, 5:303; 14:354².
- Liviinae*, 9:411.
- Livingston, Clermont, observations on *Cicada*, 12:286.
- Livingston, R. R., insects from, 10:512.
- Lixus concavus*, 1:260; 9:463; 10:511.
- paraplecticus*, of Europe, 1:260.
- rubellus*, 1:260.
- Lochmaea crataegi* (syn. *Galeruca sanguinea*), 11:197.
- Lochner, J. A., & Co., insects from, 10:517.
- Lockwood, J. L., insects from, 9:461.
- Lockwood, Samuel, cited, 5:234.
- Locust, classification, 1:79; destructiveness of, 2:156; 6:151-53; 9:297; 10:439-43; egg parasite of, 1:182; histological studies of, 4:167; Mantis preying on, 4:158, 161; name improperly applied to *Cicadas*, 5:318; 6:153; 9:333; reference, 1:52; remedies, 1:40, 50, 51; 2:36; 9:444-45; special reports on (reference), 4:176-77; species treated of, 6:151-53; 9:330-34; 10:439-45; transformations, 9:332; winter appearance, 9:330-31, 439.
- coral winged, 8:300.
- devastating, 11:272.
- green striped, 2:187-98, 223; 9:298, 330-34, 439; 10:498; 11:271; 14:342², 373⁹, 383⁸.
- lesser migratory, 10:440; 11:271.
- pellucid, 11:271.
- red legged, 11:272.
- Rocky mountain, Anthomyian parasite of, 1:168, 181-84; depredations, 1:332; 10:439-40; flights of, 1:13-14; loss caused by, estimated, 1:7; Mantis preying on, 4:161; number of generations of, 2:196; 9:332; operations against, 7:338-40; reference, 1:17, 18, 193, 195; 2:192, 193; 4:165, 177, 192; 10:496; 11:271; remedies, 1:50.
- 17-year, see *Cicada*, 17-year.
- Shoshone, 11:271.
- 13-year, see *Cicada*, 13-year.
- two striped, 11:272.
- Locust egg Anthomyian, see *Wheat fly*, deceptive.
- Locust Hispa (*Odontota dorsalis*), 1:309, 320.
- Locust leaf miners, 1:309.
- Locust mite, 8:179-80; 10:497; 14:372⁹, 382².
- Locust tree, insects injurious to; *Cicada septendecim*, 2:176.
- Ctenucha virginica*, 1:317.
- Cyllene robiniae*, 1:317; 7:363; 8:175, 176.
- Enchenopa binotata*, 1:287.
- Heteropacha rileyana*, 2:40.
- Icerya purchasi*, 4:187.
- Lycia cognataria* (syn. *Amphidasys*), 2:98.
- Macrobasis unicolor*, 12:315.
- Neoclytus erythrocephalus*, 12:246.

- Locust tree, insects injurious to;
Notolophus leucostigma (syn. *Orgyia*), 2:77.
Odontota dorsalis (syn. *Anoplitis scutellaris*), 1:309, 320; 12:265-66; 13:374¹.
Pomphopoea sayi, 6:136.
Prionoxystus robiniae (syn. *Cossus*), 9:426.
Pulvinaria innumerabilis, 6:143.
Thelia bimaculata, 9:392.
Thyridopteryx ephemeriformis, 1:84; 10:494.
 black, *Epantheria ocularia* (syn. *E. scribonia*) on, 12:189.
 honey, insects injurious to;
Cyllene robiniae (syn. *Clytus*), 1:317.
Enchenopa, 4:203.
Heteropacha rileyana, 2:40.
Macrobasis unicolor, 12:362.
Megilla maculata, 4:83.
 Locust tree borer, 1:317; 2:223; 7:363; 8:175, 363; 10:504; 13:360⁵; 14:366⁶.
Locusta viridifasciata, see *Chortophaga*.
 locustarum, *Trombidium*, 8:111, 179-80, 287; 10:497; 14:372², 382².
 Lodeman, E. G., cited, 9:318.
 Loew, Franz, cited, 11:162, 164; 12:229.
 Loew, Herman, cited, 9:309; *Diptera Americae septentrionalis indigena*, cited, 1:216; 7:228; *Neue Beiträge zur Kenntniss der Psylliden* cited, 9:317.
 Loew, Herman and Osten Sacken, C. R., *Monographs of Diptera of North America* cited, 2:117; 4:63; 10:388, 404.
 London pride, *Poecilocapsus lineatus* on, 1:277.
 Long, A. S., insects from, 7:383.
 Long stings, 4:40; 5:311; 8:163-66; 11:279.
 black, 4:37; 5:305; 13:367⁹, 371³; 14:333⁷, 355², 397⁶.
 lunate, 4:35-41; 5:311; 8:108, 162-66; 10:497; 12:262, 359; 14:337², 357⁴, 382⁴.
 Longicorn beetles, 4:20, 23; 9:358, 427, 431, 435.
 longicornis, *Ascalaphus*, 11:239, 240, 241.
 Diabrotica, 4:82; 11:269; 12:348; 14:391⁶.
 longifilis, *Dactylopius*, see *D. adonidum*.
 longior, *Tyroglyphus* (syn. *Acarus horridus*), 3:130; 5:292; 6:190; 11:256; 13:364⁹.
 longipalpoides, *Gamasus*, 11:259.
 longipennis, *Gryllotalpa*, see *G. columbia*.
 Trypeta, 3:137.
 longipes, *Emesa*, 6:189; 13:374⁶.
 Sciara, 5:265.
 longelobatus, *Gordius*, 4:125.
Lonicera tartarica, see *Honeysuckle*, *Tartarian*.
Lophoderus triferana, 1:329; 11:266.
Lophyrus abietis, 1:42.
 lecontei, 1:42; 10:515; 11:284.
 lorata, *Sabulodes* (syn. *Tetracis*), 3:140; 10:483.
 Tetracis, see *Sabulodes*.
 Lord, E. J., insects from, 7:382.
 Los Angeles (Cal.) horticultural commission, *Report* quoted, 11:209.
 lotis, *Lycaena*, 7:374; 14:306⁶, 321⁴.
 Lounsbury, C. P., cited, 12:193, 293; referred to, 11:105.
 Love, E. G., cited, 12:273.
 Lowe, J. R., insects from, 10:519.
 Lowe, V. H., cited, 11:178; 12:193, 208; insects from, 12:362; 13:373⁹.
 Lowell, John, cited, 1:227.
 Lowell institute, lectures of, 12:344.
Loxostege chortalis (syn. *Eurycreon*), 11:284.
 cbliteralis (syn. *Botis marculeta*), 10:483.
 similalis (syn. *Eurycreon ratalis*), 1:329; 6:182; 11:266; 14:329⁸.
Lozotaenia afflictana, 10:483.
 lubricalis, *Pseudaglossa*, 1:340; 11:284.
Lucanus dama, 1:330; 4:180, 207; 11:268, 284; 12:362.
 Lucas, Hippolyte, cited, 2:136; 4:151; 11:177.
 Lucerne, insects injurious to;
 Heliothis armiger, 1:121.
 Peridroma saucia (syn. *Agrotis*), 5:205.
 lucia, *Lycaena*, see *Cyaniris pseudargiolus* var.
 lucicola, *Anomala* (syn. *A. atrata*, *A. moerens*, *A. pinicola*, *Melolontha*, *M. atrata*, *M. moerens*), 1:307; 5:305, 325; 10:408-10; 12:352; 13:373⁵; 14:355², 393³.
 var. *maculicollis*, *Anomala* (syn. *A. maculicollis*), 1:307.
 Melolontha, see *Anomala lucicola*.
 lucifuga, *Cucullia*, 9:450.

- Lucilia cadaverina*, *see* *Pyrellia*.
caesar, 1:69, 299; 4:180; 12:210.
macellaria (syn. *Campsomyia*), 1:62, 343.
- lucilius*, *Nisoniades*, *see* *Thanaos*.
Thanaos (syn. *Nisoniades*), 1:336; 7:375; 9:449; 14:306³, 311¹, 321⁵.
- lucipara*, *Euplexia*, 10:482.
- luctuosus*, *Gryllus*, 8:110, 179, 300; 10:497; 14:382².
- Lugger*, Otto, cited, 7:247; 10:433; 11:182; 12:193, 335; insects from, 7:381; referred to, 12:251.
- lugubris*, *Pemphredon*, of Europe, 8:163.
- lumbricoides*, *Ascaris*, 9:298.
- Lumbricus terrestris* (earth worm), 7:378; 14:322⁹.
- Lumsden*, G. R., insects from, 9:462.
- luna*, *Actias*, *see* *Tropaea*.
Tropaea (syn. *Actias*), 2:39, 3:140; 5:188; 9:455, 456; 10:481, 509, 515; 14:313³, 313⁶.
- lunata*, *Homoptera*, (syn. *H. saundersii*, *Noctua*, *Phalaena*), 4:57-59; 5:315; 7:375; 14:321¹, 338¹, 357⁶.
 var. *edusa*, *Homoptera* (syn. *H. edusa*, *Noctua*, *Phalaena* and *Erebus edusa*), 4:57, 59; 7:375; 14:321¹.
Mycetophila, 10:392.
Noctua, *see* *Homoptera*.
Phalaena, *see* *Homoptera*.
- lunatifrons* MS., *Anthomyia*, 1:195.
- lunator*, *Ichneumon*, *see* *Thalessa*.
Pimpla, *see* *Thalessa*.
Rhyssa, *see* *Thalessa*.
Thalessa (syn. *Ichneumon*, *Pimpla*, *Rhyssa*), 2:227; 4:35-41, 205; 5:305, 311; 6:186; 8:108, 163-66; 9:454; 10:497; 11:279; 12:262, 359; 14:332⁵, 337², 355³, 357⁴, 382⁴, 389⁶.
- Luperina passer* (syn. *Hadena*), 10:482.
- Lupines*, *Mecyna reversalis* on, 11:142.
- lutea*, *Phora*, 10:403.
- luteata*, *Eupithecia*, *see* *Tephroclystis*.
Tephroclystis (syn. *Eupithecia*), 4:20.
- luteicoma*, *Acronycta*, 1:328; 11:265.
- luteola*, *Galerucella*, *see* Elm leaf beetle.
- lutescens*, *Aulacomereus*, *see* *Trichiocampus viminalis*.
- Lycaena comyntas*, *see* *Everes*.
lotis, 7:374; 14:306⁶, 321⁴.
lucia, *see* *Cyaniris pseudargiolus* var.
neglecta, *see* *Cyaniris pseudargiolus* var.
pseudargiolus, *see* *Cyaniris*.
- lycaon*, *Apatura*, *see* *Chlorippe celtis*.
- Lyceum* of natural history of New York, 14:305⁴.
- Lycia cognataria* (syn. *Amphidasyus*, *Eubylia*), 2:97-101, 227; 9:456; 11:266; 14:313¹, 332⁸, 342⁵.
ursaria (syn. *Biston*), 3:136.
- Lycomorpha pholus*, 9:450.
- Lycetinae*, 2:132.
- Lycetus opaculus*, 2:130.
- Lygaeidae*, 2:148; 11:188, 189.
- Lygaeonematus erichsonii* (syn. *Nematus*), appearance in United States, 5:166; bibliography, 5:164; detailed account, 5:164-73; hibernated insect from Cherry Valley, N. Y., 5:170-71; in Europe, 5:166; injuries, 5:171-72; 7:367; 8:168-69; observations in Hamilton county, 5:168-70; occurrence in New York, 5:166-68; reference, 4:205; 5:324; 7:335; 8:108; 10:497; 14:362⁵, 368⁸, 382⁵; remedies, 5:172-73; spread of, 4:16; 5:166.
- Lygaeus leucopterus*, *see* *Blissus*.
lineatus, *see* *Poecilocapsus*.
succinctus, *see* *Largus*.
trivittatus, *see* *Leptocoris*.
turcicus, 2:166.
- Lygranthoecia marginata*, *see* *Schinia*.
rivulosa, *see* *Schinia marginata*.
- Lygus invitus*, 7:348; 8:105, 125, 299.
lineatus, *see* *Poecilocapsus*.
lineolaris, *see* *L. pratensis*.
pratensis (syn. *Cimex*, *Capsus oblineatus*, *Coreus linearis*, *Lygus lineolaris*, *Phytocoris linearis*, *P. lineolaris*), bibliography, 13:351⁴-53⁹; description, 13:355⁴-56⁶; distribution, 13:357²; economic aspect, 13:354³; figure, 13:356⁴; injuries in peach nurseries, 13:354¹-55⁴; life history and habits, 13:356¹-57¹; nursery inspection, 13:357⁸; reference, 5:275, 326; 6:189; 8:105, 125, 285, 291; 9:375; 11:270; 12:263; 14:315⁴, 372¹, 400⁴.
- Lyman*, G. T., insects from, 5:325; 8:298; 9:464; 11:286; 12:362; reference, 13:359⁶.

- Lymexylon navale, 4:195.
 Lyons, J. D., insects from, 11:286.
 Lyperosia irritans, *see* Haematobia serrata.
 serrata, *see* Haematobia.
 Lysiphlebus cucurbitaphidis, 11:167.
 Lytrosia unitaria (syn. Hemerophila), 10:483.
 Lytta atrata, *see* Epicauta pennsylvanica.
 marginata, *see* Epicauta cinerea.
 murina, *see* Macrobasis unicolor.
 nuttalli, *see* Cantharis.
 sayi, *see* Pomphopoea.
 vesicatoria (syn. Cantharis), 5:305; 6:131, 133; 14:354³.
 vittata, *see* Epicauta.

Mabee, Jerome, insects from, 7:382.
 macaira, Pyrgus (syn. P. oceanus), 1:336.
 McAllister, W., insects from, 10:509.
 Macaria, scent organs in, 1:72.
 Macaroni, Calandra oryzae in, 13:374³.
 macaronius, Ascalaphus, *see* A. hungaricus.
 McCann, J. D., insects from, 10:516.
 McCarthy, Gerald, cited, 10:454; 11:146; 12:193, 268; referred to, 12:270.
 McCook, H. C., quoted, 12:181-82.
 McDougal, —, insects from, 9:462.
 macellaria, Campsomyia, *see* Lucilia.
 Lucilia (syn. Campsomyia), 1:62, 343.
 MacGillivray, A. D., cited, 11:251; 13:338⁷; reference, 13:335⁶.
 McHarg, J. N., insects from, 12:360.
 McLachlan, Robert, cited, 2:198, 203; 10:477; 11:240.
 McLeay, W. S., 2:136.
 macleayanus, Ascalaphus, 11:240.
 Macloskie, G., quoted, 12:329; referred to, 12:324.
 Maclura aurantiaca, *see* Osage orange.
 maclurae, Coccus, *see* Pulvinaria.
 Lecanium, *see* Pulvinaria innumerabilis.
 Pulvinaria, *see* P. innumerabilis.
 maclurae Kenn., Lecanium, *see* Pulvinaria.
 Pulvinaria (syn. Coccus, Lecanium), 1:301; 6:142, 143.
 macmurtrei, Prionoxystus (syn. Cossus querciperda), 2:216; 7:220, 375; 14:322¹.

 McNaughton, Anna, insects from, 4:207.
 McNeil, Jerome, cited, 7:297; 9:330.
 Macon, L. S., insects from, 6:187, 190.
 Macquart, Jean, *Diptères exotiques ou peu connus* cited, 1:211; 2:116; *Histoire naturelle des insectes, Diptères* cited, 1:207; 5:220; 8:140; 9:309; 10:387, 404; 12:229. (Also cited as Suites à Buffon).
 Macrobasis fabricii, *see* M. unicolor.
 unicolor (syn. M. fabricii, Lytta murina), 1:32, 57, 331; 5:305, 321; 8:290-91; 10:511; 11:269, 286; 12:315, 356, 362; 14:315², 341⁴, 354³, 395².
 Macroductylus, derivation of name, 1:227-28.
 subspinosus (syn. Melolontha), bibliography, 1:227-28; characteristics, 1:231; classification and description, 1:228-29; detailed account, 1:227-32; food plants, 1:129-30; habits, 2:48-49; 7:346-47; natural history, 1:231; ravages, 1:230-31; 2:225; 4:14-15, 142, 198; 5:154; 6:166; reference, 1:307, 330; 4:207; 6:175; 9:462; 10:511; 11:173, 268; 12:362; 14:325⁴, 331³, 336¹, 349⁴, 350², 357³, 359³; remedies, 1:57, 231-32; 4:198; 8:200-2; 9:418.
 uniformis, 11:268.
 Macronoxia variolosa, *see* Polyphylla.
 Macrops indistinctus, 10:517.
 Macropsis, 9:400.
 Macrosila quinquemaculata, *see* Phlegethontius.
 Macrurocampa marthesia (syn. Heterocampa), 10:481.
 macrurum, Ophion, 7:228.
 macula, Leptostylus, 11:269.
 maculalis, Desmia, *see* D. funeralis.
 maculata, Coccinella, *see* Megilla.
 Halisidota, 1:328; 11:264.
 Hippodamia, *see* Megilla.
 Megilla (syn. Coccinella, C. 10-maculata, Hippodamia), 2:233, 234; 4:80-84; 10:511; 11:181; 14:336⁶, 357³.
 Psoa, 11:268.
 Vespa, 1:330; 5:285; 7:229; 9:461; 11:264.
 maculatus, Ceuthophilus, 12:363.
 Emphytus, *see* Harpiphorus.
 Harpiphorus (syn. Emphytus), 1:42; 13:336⁷.

- maculatus*, *Hyperplatys*, 1:331; 6:188; 11:269.
Pyrgus, *see* *Scelothrix*.
Raphitelus, 4:105.
Scelothrix (syn. *Pyrgus*), 1:336.
maculicollis, *Anomala*, *see* *A. lucicola* var.
Clastoptera, subspecies, 9:394.
maculipennis, *Idiocerus*, 9:399.
Stenobothrus, *see* *Orphulella pelidna*.
maculosa, *Panorpa*, 10:464, 465.
Macy, A. M., insects from, 8:298.
Magazine of natural history (London's), cited, 1:172; 7:279.
Magdalis aenescens, 11:270.
armicollis, 12:246.
magnarius, *Ennomos*, 9:456; 11:266; 14:313⁷.
Magnolia, insects injurious to;
Aspidiotus nerii, 8:215; 11:204.
Leptocoris trivittata, 4:158.
Mytilaspis pomorum, 13:374⁹.
Magnolia scale, 10:518.
maia, *Hemileuca*, 1:328; 2:40, 75; 3:91; 4:52; 195; 5:186; 9:448, 456; 11:265; 14:311⁶, 313⁶, 347⁸.
Maia moth, 1:328.
Maine state college, course in entomology at, 12:344.
major, *Datana*, 8:296.
Malachidae, injuring apple trees, 11:267.
malana, *Balsa* (syn. *Nolophana*), 1:328; 11:265; 12:312, 356; 14:395².
Eccopsis, *see* *Exartema*.
Exartema (syn. *Eccopsis*), 1:329; 11:121, 266.
Nolophana, *see* *Balsa*.
malefida, *Agrotis*, *see* *Feltia*.
Feltia (syn. *Agrotis*), 8:236.
mali, *Aphis*, *see* *Aphis mali*.
Crypturgus, *see* *Monarthrum*.
Erythroneura, *see* *Typhlocyba*.
Molobrus, *see* *Sciara*.
Monarthrum (syn. *Crypturgus*, *Tomicus*), 1:331; 7:316, 317, 370; 9:440; 11:270; 14:318⁶, 374⁶.
Myzoxylus, *see* *Schizoneura lanigera*.
Phlaeothrips, 1:332; 11:248, 271.
Psylla, 9:323.
Sciara (syn. *Molobrus*), 1:219, 330; 2:125, 227, 234; 5:265; 10:387, 388, 389, 391; 11:267; 14:332⁶, 336⁷.
Tomicus, *see* *Monarthrum*.
Typhlocyba (syn. *Erythroneura*), 11:271.
malifoliae, *Aphis*, 1:331; 9:412; 11:271.
malifoliella, *Tischeria*, 1:330; 3:137, 140, 6:187; 7:354; 9:445, 462; 11:160-62, 267; 12:357; 14:376⁷, 395⁹.
malifoliellus, *Ypsolophus*, 1:329.
malivorana, *Teras*, *see* *T. minuta*.
malivorella, *Coleophora* (syn. *C. multipulvella*), 1:163-67, 329; 2:225; 6:178; 8:105, 123, 217, 281, 297; 11:122, 267; 14:326⁸, 331⁸, 335⁷, 370⁷.
Mallodon angustatum, 7:251.
Mallophaga, 1:80; 2:31; 8:384.
Mallota barda, *see* *M. posticata*.
cimbiciformis, *see* *M. posticata*.
posticata (syn. *M. barda*, *M. cimbiciformis*, *M. sackeni*, *Imatisma*, *Eristalis posticata*, *E. coactus*, *Merodon balanus*, *M. bardus*, *Milesia barda*), 1:211-16; 4:141; 6:173; 14:324², 335⁹.
sackeni, *see* *M. posticata*.
species, 14:350⁸, 357⁹.
Mally, C. W., cited, 11:250; 13:353⁹.
Malva, *Sciara giraudii* on, 5:265.
Mamestra, 1:58, 71; 8:231.
adjuncta (syn. *Hadena*), 9:456; 10:482; 14:316⁶.
arctica, *see* *Xylophasia*.
assimilis, 1:328; 11:265.
grandis, 5:210-13; 10:482; 14:362⁷.
meditata, 10:377, 482.
olivacea, 10:377.
picta (syn. *Ceramica*, *C. exusta*), 2:1; 4:16, 206; 5:206-10; 9:455; 10:492; 11:265; 13:372⁸; 14:313⁴, 362⁷, 379⁹.
purpurissata, 10:377.
renigera, 10:482.
subjuncta (syn. *Hadena*), 1:58; 8:235; 11:265.
trifolii, 1:8; 5:323; 8:235; 10:482.
mamestrae, *Microplitis*, 5:208.
manca, *Dicerca*, 5:286.
mancus, *Agriotes* (syn. *A. truncatus*), 4:207; 8:198, 200; 12:356; 14:394⁹.
Mandlebaum, M., insects from, 10:515.
manducator, *Alysia*, of Europe, 1:176, 187.
Mangel wurzel, insects injurious to;
Chelymorpha argus, 10:517.
Mamestra picta, 5:209.
Mann, B. P., cited, 2:116; 7:225; 9:309; 10:478; 11:134; 12:190, 230.
Mann, W. T., insects from, 7:382.
manteo, *Heterocampa*, 11:265.

Mantidae, 4:158.

Mantis, praying, 4:160, 193; 7:357.

Mantis argentina, 4:162.

carolina, *see* Stagmomantis.chlorophaea, *see* Theoclytes.

gemmata, 4:162.

inquinata, *see* Stagmomantis

carolina.

oratoria, 4:162.

phryganoides, *see* Gonatista

grisea.

religiosa, 4:162.

Manure, milliped breeding in, 12:303.

Manure fly or gnat, 10:391-97, 398, 399, 400; 12:351; 14:393².

mappa, Plusia, 10:377.

Maple, insects injurious to;

Anisota rubicunda (syn. Dryocampa), 5:197, 200; 9:295; 10:507.

Aspidiotus nerii, 5:279, 317; 8:215; 11:204.

tenebricosus, 11:221.

Basilona imperialis (syn. Eacles), 13:350⁸.

Cacoecia argyrospila, 7:356.

Chaitophorus aceris (syn. Aphis), 9:406.

Cimbex americana, 11:284.

Clisiocampa americana, 6:106.
disstria (syn. C. sylvatica), 3:93, 147; 6:106, 166.

Cyllene robiniae, 10:504, 517.

Elaphidion villosum (syn. E. parallelum), 3:141, 150; 5:153; 9:357, 359; 12:314, 354; 13:359⁹.

Euphoria inda, 10:504.

Gypona flavilineata, 9:397.

Homoptera lunata, 4:58.

Incurvaria acerifoliella, 1:308; 5:215, 216; 9:458; 14:314⁵.

Lachnosterna tristis, 9:296.

Lecanium species, 12:363.

Leptocoris trivittatus, 4:157, 158, 193.

Lepyronia quadrangularis, 9:393.

Livia vernalis, 9:404.

Lygaeonematus erichsonii (syn. Nematus), 5:168.

Mytilaspis pomorum, 11:202.

Notolophus leucostigma (syn. Orgyia), 4:50; 6:107.

Paramesus vitellinus (syn. Acocephalus), 9:397.

Pemphigus acerifolii, 10:494; 14:380⁶.

Penthimia americana, 9:397.

Phytoptus quadripes, 5:303.

Maple, insects injurious to;

Plagionotus speciosus (syn. Glycobius), 2:227; 6:169; 8:202, 205; 9:442; 10:493; 12:238, 239-40, 242; 14:332⁴.

Proteoteras aesculana, 12:215, 217.

Psocus venosus (syn. P. aceris), 1:316.

Psylla annulata, 9:404.

Pulvinaria innumerabilis, 2:230; 5:313, 326; 6:141; 7:370, 371, 384; 8:110, 177-78, 216; 10:497; 14:318⁷.

Samia cecropia, 2:77.

Saperda tridentata, 12:243, 245.

Sesia acerni (syn. Aegeria), 10:504.

Steganoptycha claypollana, 11:278, 285; 14:399⁴.

Thyridopteryx ephemeraeformis, 1:84.

Tremex columba, 2:226 227; 4:38; 5:305; 6:171; 14:332⁴.

unknown insect, 11:280-81.

white ants, 4:179.

Xylotrechus colonus, 4:94, 194.

Zeuzera pyrina, 9:426-27.

ash-leaved, Leptocoris trivittatus on, 4:157, 158.

Norway, insects injurious to;

Chaitophorus species, 13:362³.Elaphidion villosum (syn. E. parallelum), 12:362; 13:359⁸.

silver, soft or white, insects injurious to;

Anisota species, 5:200.

Ceresa bubalus, 4:146.

Chrysobothris femorata, 6:155.

Drepanosiphum acerifolii, 13:363².

Incurvaria acerifoliella, 5:216.

Leptocoris trivittatus, 4:193.

Pulvinaria innumerabilis, 5:326; 6:141; 11:204.

sugar, insects injurious to;

Anisota species, 5:200.

Incurvaria acerifoliella, 5:216.

Phobetron pithecium, 5:187.

Plagionotus speciosus (syn. Glycobius), 3:103; 11:280; 12:239-40, 242.

Steganoptycha claypollana, 12:215, 217.

Xylotrechus colonus, 4:94.

Maple leaf aphis, 9:406.

Maple leaf cutter, 1:308; 5:215-19; 9:458; 14:314⁵, 362⁷.

Maple leaf louse, 11:287.

Maple leaf mite gall, 5:303; 14:354².

Maple tree borer, 3:103-5; 4:204; 6:169; 8:202-5; 9:442; 10:493, 497,

- 504; 11:280; 12:237-42, 243, 362; 14:352⁶, 361⁴, 375⁸, 380², 382⁵, 386⁵, 389⁷, 399⁵. *See also* *Plagionotus speciosus*.
- Maple tree pruner, 3:150; 9:357-61; 10:498; 14:345⁸, 383⁷.
- Maple tree Psocus, 1:315.
- Maple tree scale insect (*Pulvinaria innumerabilis*), 1:310; 2:230; 5:313; 6:141-47; 7:360, 384; 8:177-78, 216; 10:497, 499; 11:204-5, 275, 277; 14:333⁷, 338², 368², 382¹, 384³, 388², 388⁹.
- Maple tree worm, green striped, 9:422.
- March, —, cited, 7:297.
- marculenta, Botis, *see* *Loxostege obliteralis*.
- margaritellus, Crambus, 1:150.
- Margaronia hyalinata (syn. *Eudiotis*, *Phakellura*, *Phalaena*, *Pyralis*), bibliography, 11:134-35; characteristics of attack, 11:135-36; Guenée's description of moth, 11:137; insect described, 11:136-37; life history, 11:137; natural enemies, 11:138; ravages of, 11:137; reference, 5:320; 10:503; 11:128, 131, 132; 12:357; 14:341², 386², 395⁷; remedies, 11:138.
- nitidalis (syn. *Eudiotis*, *Phakellura*, *Phalaena*) bibliography, 11:126-27; description of larvae, 11:129-30; description of moth, 11:130; distribution, 11:132; food plants, 11:132; injuries, 11:127-28, 131-32; life history and habits, 11:131; natural enemies, 11:132-33; remedies and preventives, 11:133; reference, 3:140, 152; 5:320; 10:503; 11:134, 136-38; 12:357; 14:341², 346⁶, 386², 395⁶; resemblance to another larva, 11:128.
- marginalis, *Dytiscus*, 8:298; 9:462. *Systema*, 4:156.
- marginata, *Anomala* (syn. *Melolontha*), 10:411-13, 491; 11:268; 12:352; 14:379⁶, 393⁴.
- Bembecia (syn. *Trochilium marginatum*), 3:145; 9:450; 14:344⁴.
- Cantharis, *see* *Chauliognathus marginatus*.
- Epicauta, *see* *E. cinerea*.
- Lygranthoecia, *see* *Schinia*.
- Lytta, *see* *Epicauta cinerea*.
- Melolontha, *see* *Anomala*.
- marginata, *Schinia* (syn. *Lygranthoecia*, *L. rivulosa*), 3:141, 153.
- marginatum, *Acridium*, *see* *Chortophaga viridifasciata*.
- Trochilium*, *see* *Bembecia marginata*.
- marginatus, *Chauliognathus* (syn. *Cantharis marginata*), 3:153; 4:84, 88; 5:316; 9:344, 463; 10:498; 11:133, 138; 14:339², 346⁶, 357³.
- Julus, *see* *Spirobolus*.
- Pemphredon, 8:163.
- Spirobolus* (syn. *Julus*, *J. americanus*), 1:307; 3:134.
- Marguerite fly, 4:73-80, 207; 7:242; 9:421; 14:357³.
- Marguerites, *Phytomyza chrysanthemi* (*P. lateralis* in error) on, 4:73, 75.
- marina, *Heterocampa*, *see* *H. unicolor*.
- maritima, *Anurida*, 2:210.
- Marlatt, C. L., cited, 9:309; 11:110, 112; 12:254; quoted, 11:199; reference, 13:335⁹.
- marmorata, *Carynota* (syn. *Cyrtosia*), 9:389, 410.
- Cyrtosia*, *see* *Carynota*.
- marmoratus, *Achorutes*, *see* *Schoturus*.
- Schoturus (syn. *Achorutes*), 2:206.
- Marshall, W. B., insects from; 8:300.
- Marten, John, cited, 1:81; 2:57; 5:201; 7:225; 12:183; 13:343⁸.
- marthesia, *Heterocampa*, *see* *Macruröcampa*.
- Macruröcampa (syn. *Heterocampa*), 10:481.
- martialis, *Nisoniades*, *see* *Thanaos*.
- Thanaos (syn. *Nisoniades*), 1:334; 7:375; 14:321⁴.
- Martin, C. G., insects from, 7:381.
- Martin, D. S., insects from, 4:208; 10:518.
- Maruta cotula, *see* *Mayweed*.
- Maryland agricultural experiment station, *Bulletin*, 10:378; 11:177, 233; *Report* cited, 12:193, 248.
- marylandica, *Cetonia*, *see* *Euphoria inda*.
- Masicera archippivora, *see* *Frontina*.
- Mason, J. T., cited, 13:344⁵.
- Massachusetts agricultural college, course in entomology at, 12:344; Hatch experiment station, *Bulletin* cited, 9:300, 318; 11:109; 12:193, 218, 254, 293; referred to, 11:105; *Report* cited, 12:191, 194, 254.

- Massachusetts agricultural repository and journal* cited, 1:227.
- Massachusetts crop report, *Bulletin* cited, 12:193, 238, 293.
- Massachusetts horticultural society, *Transactions* cited, 11:233.
- Massachusetts state board of agriculture, *Report*, abstract from, 14:343⁴.
- Massospora cicadina, 2:171, 178, 179; 12:289.
- Mattimore, P. F., insects from, 10:509.
- mauritanica, *Tenebrioides*, 4:207; 12:362.
- Maxwell & Brothers, insects from, 4:208; 10:511.
- May beetle (*Lachnosterna fusca* and allied species), attacking nursery stock, 9:353-56; attacking wheat, 4:203; eaten by robin, 9:356-57; general account, 8:174-75; general account (abstract), 1:305, 317; 5:312-13; 8:110; injuries by, 2:3; 5:154; 6:176, 183; 9:296; life history, 9:355-56; reference, 1:228, 330; 2:41; 4:204; 5:315; 6:171; 7:369; 8:288, 298; 9:422; 10:408, 411, 497, 506, 519; 11:268; 13:366⁴; 14:318², 325⁷, 329⁴, 331⁵, 337⁷, 338⁸, 351⁶, 356⁵, 360⁸, 373⁵, 382⁷, 396⁹, remarkable abundance, 1:238; remedies, 1:54, 57, 61; 2:224; 9:353-54; sense organs of, 1:71.
- hairy, 11:268.
- May bug, *see* May beetle.
- May fly, 1:79; 4:121-24, 165, 190, 202; 5:319; 9:298; 10:466; 14:351³.
- Mayweed, as an insecticide, 2:34; reference, 12:209.
- Meade, R. H., cited, 1:173, 181, 191, 207; 8:141.
- Meadow grass, *Nectarophora granaria* (syn. *Siphonophora avenae*) on, 5:252.
- Meadow lark feeding on army worm, 12:209.
- Meadville (Pa.) society of natural history, 14:305⁸.
- Meal, *Laemophloeus alternans* in, 3:100.
- linseed, *Silvanus surinamensis* in, 13:373².
- Meal insect, 3:100; 4:204.
- Meal worm, 1:226; 4:200; 8:176-77; 9:307-9, 442; 10:497; 14:350⁴, 375⁸, 382⁸; in salt, 4:200.
- American, 10:498; 14:383⁴.
- Mealy bug, 1:79; 8:254; 9:418; 11:200.
- Measuring worms, 2:76, 91; 4:21; 5:260; 8:286; 10:502.
- Meat, smoked, *Plöphila casei* infesting, 12:230, 233, 234; cheese mite infesting, 14:349⁸, 352⁵, 363⁸, 364¹.
- Meat fly, blue, 1:170.
- Meat skipper, 12:348; 14:391⁴.
- Mecoptera, 10:463, 477, 478.
- Mecyna diversalis, 11:144.
- polygonalis, 11:142.
- reversalis (syn. *Botis*), bibliography, 11:142; cocoon, 11:144; distribution, 11:145; feeding on *Genista*, 11:142; imago described, 11:144-45; larva described, 11:143; life history, 11:142-43; pupa described, 11:144; reference, 10:515; 11:140; 12:357; 14:395⁸; remedies, 11:145; synonym possibly of *M. diversalis*, 11:144.
- Medicago sativa*, *see* Lucerne.
- meditata, *Mamestra*, 10:377, 482.
- Meehan, T. B., cited, 11:181.
- Megachile montivaga, 12:359.
- species, 6:186; 11:284.
- Megalopyge crispata (syn. *Lagoa*), 4:52, 53, 54; 5:186, 188; 9:452; 11:264; 14:312³.
- opercularis (syn. *Lagoa*), 1:328; 4:51-54, 206; 11:264; 14:357⁶.
- Megarrhina, 12:321.
- megatoma, *Attagenus*, *see* *A. piceus*.
- Dermestes*, *see* *Attagenus piceus*.
- Megilla maculata (syn. *Coccinella*, *C. 10-maculata*, *Hippodamia*), 2:233, 234; 4:80-84; 10:511; 11:181; 14:336⁶, 357⁸.
- Mégnin, Pierre, *Parasites articulés chez l'homme et les animaux utiles* cited, 10:405.
- Megoura solani, *see* *Rhopalosiphum*.
- Meigen, J. W., cited, 8:140; 10:387; *Systematische Beschreibung der bekannten europäischen zweiflügeligen Insecten*, cited, 4:73; 8:140.
- meigenii, *Eristalis*, *see* *E. broussii*.
- Melalopha apicalis (syn. *Ichthyura vau*), 9:455; 14:313⁵.
- inclusa (syn. *Ichthyura*), 9:450.
- melancholica, *Euphoria*, 1:236, 330; 3:141; 10:511; 11:268.
- Melancholy chafer, 11:268.
- Melandryidae, on apple, 11:269.
- Melanolestes abdominalis, 4:111; 5:316; 14:339².
- picipes (syn. *Pirates*, *Reduvius pungens*), 4:109-11; 5:316; 14:339¹, 357⁸.

- Melanolophia canadaria* (syn. *Tephrosia*), 4:20, 21.
Melanoplus atlanis (syn. *Caloptenus*), 1:332; 2:196; 6:151; 8:180; 9:332; 10:440, 441, 443, 496; 11:271; 14:381⁵.
bivittatus, 11:272.
cinereus, 11:272.
cyanipes, 11:272.
devastator, 11:272.
differentialis (syn. *Caloptenus*), 6:134; 11:271.
femoratus, 10:443.
femur-rubrum (syn. *Acridium*, *Caloptenus*), 1:7, 304, 332; 2:190, 193; 6:151, 153; 8:294; 9:297, 332, 464; 10:440, 441, 442, 443, 496; 11:271, 284; 14:317³, 368³, 381⁵.
herbaceus, 11:272.
spretus (syn. *Caloptenus*), 1:7, 195, 304, 332; 2:196; 4:21, 25; 6:152; 7:338; 9:332; 10:439, 440, 441, 496; 11:271.
Melanotus, 7:360.
communis, 1:63, 330; 8:198, 199, 200; 11:267.
decumanus (syn. *M. incertus*), 1:330; 11:267.
fissilis, 7:377; 14:322⁵.
incertus, see *M. decumanus*.
Melanozanthus species, 6:189.
melanura, *Nacerdes*, 8:299.
Melaphis rhois, see *Pemphigus*.
Melasoma scripta (syn. *Chrysomela*, *Lina*, *Plagiodera*), at Liverpool (N. Y.), 11:182-83; basket making industry injured by, 11:186; beetle described, 11:184; bibliography, 11:181, 182; bug catcher, 11:188, 189; destructiveness at Liverpool (N. Y.), 10:500; 11:184; eggs, abundance and where laid, 11:187, 188; European willow, food plant, 11:185; larva described, 11:183; occurrence in New York, 11:183, reference, 7:219; 10:517; 11:103; 12:357; 14:384⁹, 395⁷; remedies, 11:184, 188-89; steady increase of beetle, 11:186; successive broods, 11:184; transformations and habits, 11:186-87.
tremulae (syn. *Lina*), parasite of, 10:405.
meles var. *trifolii*, *Phytonomus*, 1:248.
Melia azedarach, *Ceroplastes cirripediformis* on, 11:287.
Melitaea, 9:454.
nycteis, see *Charidryas*.
phaëton, see *Euphydryas*.
Melittia ceto, see *M. satyriniformis*.
cucurbitae, see *M. satyriniformis*.
satyriniformis (syn. *Aegeria cucurbitae*, *Melittia ceto*, *M. cucurbitae*), additional information needed, 2:66-67; bibliography, 2:57; description of larva, 2:59-60; description of moth, 2:58-59; detailed account of, 2:57-68; experiments on, 2:67-68; injuries, 2:62-63; its family, 2:60; life history, and habits, 2:61-62; reference, 2:57; 4:138; 5:312, 320; 6:176, 187; 7:371; 9:434; 11:135; 14:319², 325⁹, 337⁴, 337³, 341², 342⁵, 350², 357³; remedies and preventives, 1:47; 2:63-65; 5:155-56; use of counterodorants, 2:65-66.
mella, *Tachina* (syn. *T. orgyiae*), 2:78.
melliginis, *Tephritis*, see *Rivellia viridulans*.
Mellisopus latiferreana (syn. *Carpocapsa*), 4:153.
Meloe angusticollis, 6:130; 9:458; 10:511, 517; 11:286; 14:314⁶, 367².
cinerea, see *Epicauta*.
pennsylvanica, see *Epicauta*.
Meloidae, 6:130, 132, 134, 135; 11:269.
Melolontha atrata, see *Anomala lucicola*.
lucicola, see *Anomala*.
marginata, see *Anomala*.
moerens, see *Anomala lucicola*.
subspinosus, see *Macroductylus*.
Melolonthidae, 1:228.
Melon, insects injurious to;
Anasa tristis, 3:110, 147; 4:204; 14:352².
Aphis gossypii (syn. *A. cucumeris*), 5:306, 326; 8:210, 283; 14:355⁶, 371⁵, 382⁶.
cut worms, 8:236.
Diabrotica 12-punctata, 12:348.
vittata, 2:29.
Diplosis cucumeris, 11:165; 14:355⁶.
setigera, 11:168.
Epilachna borealis, 7:217, 310, 8:236.
Epitrix cucumeris (syn. *Crepidodera*), 2:29.
Margarona hyalinata (syn. *Eudiotis*), 11:135.
nitidalis (syn. *Eudiotis*, *Phakellura*), 5:320; 11:130, 131, 132.

- Melon, insects injurious to;
 Melittia satyriniformis (syn. M. cucurbitae), 2:63.
 Phorbia fusciceps (syn. Anthomyia zae), 4:179.
 Thrips tabaci, 11:244.
- Melon aphid, 10:497.
- Melon caterpillar, 10:503, 11:132, 134-38; 12:357; 14:395⁷.
- Melon plant louse, 5:306, 326; 10:497; 14:355⁶.
- Melon vine midge, 11:165-68; 12:357; 14:395⁵, 395⁶.
 hairy, 11:168-70; 12:357.
- Melophagus ovinus, 1:62, 229.
- Melsheimer, F. E., cited, 1:81; 4:101, 155; 5:179; 9:299; 10:408, 414; *Catalogue of the described Coleoptera of the United States* cited, 4:80, 93; 11:181.
- melsheimerii, Amblycephalus, *see* Dectocephalus.
- Cincinnati (syn. Perophora), 7:381.
- Dectocephalus (syn. Amblycephalus), 9:401, 410.
- Perophora, *see* Cincinnati.
- Membracidae, 1:281-88, 300; 9:387; 11:270.
- Membracis binotata, *see* Enchenopa lanceolata, of South America, *see* Enchenopa.
- mera, *see* Carynota.
- Mendell, Mrs. M. F., insects from, 10:517.
- mendica, Eudule (syn. Euphanessa), 10:481.
 Euphanessa, *see* Eudule.
- Menispermum canadense, *see* Moonseed, Canadian.
- mera, Carynota (syn. Membracis), 9:388, 410.
 Membracis, *see* Carynota.
- Merisus, 11:165.
 fulvipes (syn. Pteromalus), 11:165.
- Mermis, 2:230; 4:125; 14:333⁸.
 acuminata, 4:127; 7:374; 8:290; 14:314⁹, 315¹, 321².
- Merodon balanus, *see* Mallota posticata.
- bardus, *see* Mallota posticata.
- Meromyza americana, 1:221-27, 344; 3:96; 6:178; 7:377; 12:361; 14:322³, 326⁹, 335⁹. *See also* Wheat stem maggot.
- Merriam, C. H., quoted, 11:179.
- Merula migratoria, *see* Robin.
- Merwin & Holmes, insects from, 6:190.
- Mesochorus scitulus, 12:211.
 vitreus, 12:210.
- Mesographa stramentalis, *see* Evergestis stramentalis.
- Mesograpta polita, 7:233.
- messoria, Agrotis, *see* Carneades.
- Carneades (syn. Agrotis, A. repentis, A. cochrani), 1:58, 328, 340; 5:210; 8:188, 236; 11:121, 265.
- metacomet, Euphyes (syn. Pamphila), 4:137.
 Pamphila, *see* Euphyes.
- Metapodius femoratus, 3:153; 12:209; 14:346⁷.
- mexicana, Eudamus (syn. E. nevada), 1:337; 6:180; 14:327⁷.
- Meyrick, Edward, *Handbook of British Lepidoptera*, abstract of review, 12:349; 14:391⁷; cited, 10:378; 11:142, 147.
- Mial, L. C., *Natural history of aquatic insects*, abstract of notice of, 11:283; 14:390⁶.
- micans Helops, 11:269.
 Lachnosterna (syn. L. sororia), 1:330; 11:268.
- Michigan agricultural experiment station, *Bulletin* cited, 11:233; 12:192, 254; 13:353⁶.
- Michigan farmer, cited, 7:321.
- Michigan state board of agriculture, *Report* cited, 1:184, 194, 228; 2:57; 10:416; 11:118.
- Michigan state horticultural society, *Report* cited, 2:118; 10:416, 453.
- Michigan state pomological society, *Report* cited, 1:228; 11:248.
- Mickleborough, John, insects from, 13:372².
- Microcentrum retinervis, 4:80; 5:323, 326; 11:271, 288; 13:365⁷; 14:341⁹, 396⁷.
- Microcentrus caryae (syn. Uroxiphus), 9:392, 410.
- microcephala, Phora, 10:404.
- Micrococcus amylovorus, *see* Pear blight.
- bombycis, 2:40.
- Microdon apiformis, of Europe, 2:116.
 globosus (syn. Aphritis, Dimeraspis podagra, Mulio, Parmula cocciformis, Scutelligera ammerlandia), 2:116-17; 4:175; 9:313; 14:342⁹.
 mutabilis, of Europe, 2:116.
 tristis, 2:116.
- Microdus laticinctus, 11:156.
- Microgaster, 1:103, 110; 2:41; 5:170, 177; 7:358; 8:295; 12:210.
 atalantae, *see* Apanteles congregatus var.

- Microgaster, carinata*, see *M. gelechia* var.
gelechia (syn. *Apanteles*), 2:39.
 var. *carinata* (syn. *M. carinata*), 2:39.
pieridis, see *Apanteles congregatus* var.
Microplitis mamestrae, 5:208.
Micropteryx pomivorella, 1:330; 10:510; 11:267.
Micropus leucopterus, see *Blissus spinolae*, 1:302.
Middleburgh gazette cited, 6:181; 14:328⁴.
middletonii, *Aphis*, 9:371, 441; 10:501; 14:375⁶, 385⁸.
Mignonette, insects injurious to;
 Mamestra picta, 5:209.
 Plusia brassicae, 2:91.
 Thrips tabaci, 11:244.
milberti, *Aglais* (syn. *Vanessa*), 4:137; 5:285; 10:507; 14:309⁵.
 Vanessa, see *Aglais*.
Milesia barda, see *Mallota posticata*.
militaris, *Apanteles*, 8:238; 12:210.
 Exorista, see *Winthemia 4-pustulata*.
 Sciara, 10:390.
Milkweed, insects on;
 Anosia plexippus (syn. *Danaus archippus*), 4:135.
 Chelymorpha argus, 4:201.
 Doryphora clivicollis (syn. *Chrysomela trimaculata*), 7:369.
 Hydroecia nitela (syn. *Gortyna*), 1:112; 8:191.
 Largus succinctus, 2:166.
 Trypetidae, 5:282.
Milkweed beetle, 4:14, 201.
Milkweed butterfly, 10:490.
Millepedes, 8:222; 10:445-49; 11:276; 12:302, 349; 14:388⁴, 391³, 391⁷.
 flattened, 12:301, 349.
 spotted, 10:449.
Miller, I. M., cited, 12:192.
Miller, Mrs J. C., insects from, 13:374².
Mills, Charles, insects from, 13:375².
Milmoe, P. F., insects from, 8:296.
Miltogramma argentifrons, 12:210.
Milyas cinctus (syn. *Harpactor*), 1:331; 3:108.
minus, *Bruchus*, 7:285.
Mineola indigenella (syn. *Phycis*), 11:121, 266.
minians var. *violans*, *Nephelodes*, see *Nephelodes minians* var. *violans*.
minus, *Pezomachus*, 12:210.
ministra, *Datana*, see *Datana ministra*.
Minnesota agricultural experiment station, *Bulletin* cited, 11:182; 12:193; *Report* (entomologist's) cited, 10:433; 12:193, 335.
minor, *Athysanus*, see *Bythoscopus*.
 Bythoscopus (syn. *Athysanus*), 9:400, 410.
Mint, *Poecilocapsus lineatus* on, 1:277.
minuta, *Anomala*, 10:412, 413.
 Phora, 10:403.
 Teras (syn. *T. malivorana*), 1:329; 11:121, 266.
 Trichogramma, 2:220.
 var. *cinderella*, *Teras* (syn. *T. cinderella*), 1:329; 11:266.
minutum, *Monomorium*, 11:113.
miranda, *Caradrina*, 10:482.
Miscellaneous essays on economic entomology (Forbes and assistants), cited, 4:80, 155; 10:388; 11:109.
miscellus, *Adipsophanes*, see *Catabena lineolata*.
misella, *Pentilia*, 2:186.
Mississippi agricultural experiment station, *Bulletin* cited, 10:378.
Mississippi valley horticultural society, *Transactions* cited, 12:191.
Mitella, *Tetranychus telarius* on, 5:288.
Mites in bran, 6:170; in clothing, 6:180; in flour, 3:100; 5:294-95; 8:293; in houses, 6:158-61; 7:368; 14:332⁵; in smoked meat, 3:130-31, 151; 4:204; 5:291-94; 7:357; on *Arbor vitae*, 4:201, 203; on birds, 1:45, 62; 2:227; 3:129; on clover, 7:321-24; on garden plants, 5:287-89; on grass, 1:224; 3:128-29; 4:204; on insects, 2:110; 4:200; 5:289-91; 6:166, 190; 7:365; 8:179-80; 10:378, 384-86; on maple, 5:303; on mushrooms, 10:449-50, 452-53, 486; 12:352; on orange, 3:144; 8:281; on peach, 10:459-60; on pear, 9:442; 10:453-60; on plum, 10:460; on potatoes, 3:133, 134, 142, 153; 8:222; 10:451, 487; 12:352; reference, 9:377; 11:225; remedies, 10:450.
 fresh water, 5:290.
 red, 6:159; 7:323, 365.
 spinning, 5:290; 6:160.
mitis, *Systema*, see *S. taeniata*.
modestus, *Podisus*, 5:170; 6:189; 7:353; 13:374⁴.

- moerens, *Anomala*, see *A. lucicola*.
Melolontha, see *Anomala lucicola*.
 Moeschler, H. B., cited, 7:225.
 Moffat, J. A., cited, 1:116; 2:142; 11:127, 135, 139, 146, 241; 12:193.
molesta, *Formica*, see *Monomorium pharaonis*.
Myrmica, see *Monomorium pharaonis*.
Solenopsis, see *Monomorium pharaonis*.
molestum, *Monomorium*, see *M. pharaonis*.
Simulium, see *S. venustum*.
molitor, *Tenebrio*, 2:138; 4:200, 207; 8:110, 176-77, 299, 300; 9:308, 442; 10:497; 14:350⁴, 375⁷, 382⁸.
mollipes, *Aulacizes*, see *Diedrocephala*.
Diedrocephala (syn. *Aulacizes*), 9:396, 410.
Molobrus fuliginosa, see *Sciara*.
inconstans, see *Sciara*.
mali, see *Sciara*.
vulgaris, see *Sciara*.
Monarthrum mali (syn. *Crypturgus, Tomicus*), 1:331; 7:316-17, 370; 9:440; 11:270; 14:318⁶, 374⁶.
Monkshood, *Phytomyza nigricornis* infesting, 4:79.
monodon, *Notoxus*, 11:269.
Monohammus confusor (*M. titillator* in error), 2:49-51, 55; 4:23, 207; 5:325; 6:188; 9:463; 10:511, 517; 12:238, 361.
scutellatus, 10:517.
titillator, erroneous reference of *M. confusor*.
Monomorium carbonarium, 10:366.
molestum, see *M. pharaonis*.
pharaonis (syn. *Formica*, *M. molestum*, *Myrmica* and *Solenopsis molesta*), Bellevoye's observations on, 11:112-13; bibliography, 11:109-10; description of, 11:110-11; earlier life history, 11:110; figure of, 11:111; habits, 11:111; life history, 11:112; other species in houses, 11:113; reference, 1:62, 321; 10:366; 12:356; 14:390⁵, 395⁵; remedies, 11:113-14; Say's description of female, 11:110; ubiquitous character, 11:110.
Monophadnoides rubi (syn. *Selandria*), 1:42.
Monostegia ignota, 9:431.
rosae (syn. *Selandria*), 1:42; 17:344, 362; 10:499; 14:366⁴, 384⁴.
monticola, *Telamona* (syn. *T. querci*), 9:391, 410.
montivaga, *Hesperia* (syn. *Pyrgus tessellata*), 1:336.
Megachile, 12:359.
 Moody, E. & Sons, insects from, 3:140.
 Moody, H. L., cited, 8:155; 11:240.
 Moonseed, Canadian, *Psenocerus supernotatus* infesting, 3:138.
 Moore, C. H., insects from, 9:462.
 Moore, C. R., insects from, 4:206, 208; 10:518.
 Moore, Dr E., insects from, 11:287, 288; 12:363.
 Moore, J. M., insects from, 4:208.
 Moore, W. H., insects from, 3:142.
 Mordecai, J. R., insects from, 10:511.
 Morgan, H. A., insects from, 11:287.
 Morning glory, insects injurious to; *Cassida bivittata*, 6:127.
nigripes, 7:363.
Chelymorpha argus, 4:201.
Coptocycla aurichalcea, 6:125, 126; 7:363.
guttata, 6:127.
Poecilocapsus lineatus, 1:277.
 Morrell, L. L., insects from, 10:518; 11:287.
 Morris, Benjamin, observations on *Lebia grandis*, 12:236.
 Morris, J. G., cited, 2:168; *Catalogue of the described Lepidoptera of North America* cited, 12:183; *Synopsis of the described Lepidoptera of North America* cited, 1:81, 87; 2:68; 4:51; 5:184, 192; 7:225; 12:183; 13:343¹.
 Morrison, H. K., cited, 5:201.
Morrisonia confusa, 10:482; 11:265.
 Morse, L., insects from, 11:287.
 Morton, Emily, observations on *Cicada*, 4:206; 12:279, 280, 286, 287.
mortuorum, *Plusia*, 5:285; 10:376, 377.
morula, *Acronycta*, 1:328; 9:455; 10:481; 11:265; 14:313⁴.
 mosquito, *Culex*, see *C. fasciatus*.
 Mosquitoes, abundance of, in south 1:14; 12:321; biting organs described and figured, 12:326-29; classification, 1:78; 4:190; development, final, 12:334-35; distribution, 12:321-22; eggs of, 12:332-33; elephantiasis spread by, 12:331-32; figures of biting organs, 12:327, 329; *Filaria* hosts, 12:331-32; general account (abstract), 4:196; larvae described, 12:333-34; names of, 12:319-20; palliatives of bite, 12:325; pupae de-

- scribed, 12:334; reference, 2:112; 4:133; 5:319; 10:475; 11:106; 12:307; remedies, 1:36, 38, 40, 74; severity of bite, 12:323-25; species, number of, 12:321; winter mosquito, description, 2:241-42; 14:343²; yellow fever, vaccinating against, 12:331.
- Mothrop, Frank, insects from, 8:297.
- Motschulsky, Victor, *Études entomologiques* cited, 2:198.
- Motte, L. S., cited, 12:273.
- Mountain ash, insects injurious to; *Chilocorus bivulnerus*, 12:361. *Chionaspis furfurus*, 11:208. *Chrysobothris femorata*, 6:155. *Eriocampoides limacina* (syn. *Eriocampa cerasi*), 9:335.
- mozardi, Languria, 6:184; 14:329^o.
- mucidus, Callipterus, 1:331; 11:271.
- Muck worm (*Ligyris relictus*), 12:313.
- mucronatus, Crangonyx (a crustacean), 8:279, 300; 9:347-49; 10:498, 519; 14:369^o, 383^o.
- Mulberry silk worm, 3:153; 4:177.
- Mule killer, 6:190.
- Mulio globosus, *see* Microdon.
- Muller, Albert, cited, 2:136.
- Müller, O. F., *Zoologiae Danicae prodromus* cited, 2:198.
- multifera, Caradrina (syn. *C. fidicularia*), 7:375; 10:482; 14:321^o.
- multilinea, Leucania (syn. *L. lapidaria*), 1:340.
- multipulvella, Coleophora, *see* *C. malivorella*.
- multiseta, Sciara, 12:223-24, 361.
- multispinosa, Acholla, 10:517.
- multistriatus, Julus, *see* *J. caeruleocinctus*.
- munda, Murgantia, 9:317.
- mundus, Cryptus, 1:147.
- Munson, T. V., cited, 10:411.
- Murdock, John R. and A., insects from, 8:298.
- Murgantia *histrionica* (syn. *Strachia*), absence of parasites, 1:268, 269; bibliography, 1:264; description, 1:265-66; detailed account, 1:264-71; 9:315-17; difficult to destroy, 1:268; distribution, 1:264-65, 266-67; 2:55-56; 9:315; general account (abstract), 9:441; 11:280; 12:349; injuries, 1:267-68; natural history, 1:266; reference, 1:39, 195; 2:92, 145; 6:177; 7:372; 8:290, 292; 9:463; 10:433, 498; 11:287; 12:363; 14:315², 316³, 319³, 326⁴, 336², 375⁴, 383⁵, 389^o, 391^o; remedies, 1:63, 269-71; 9:316-17.
- munda, 9:317.
- murina, Lytta, *see* *Macrobasis unicolor*.
- murinus, Dermestes, *see* *D. caninus*.
- Murray, Andrew, *Economic entomology*, *Aptera* cited, 2:208; 4:128; 10:453.
- Murtfeldt, M. E., cited, 4:51; 7:297; 12:193, 230; quoted, 12:231, 232; referred to, 12:232, 233; 13:353¹.
- Musca, a Linnaean genus, 1:191.
- conformis, *see* *Chortophila*.
- domestica, 1:146, 223, 299; 4:167; 6:168; 8:265; 9:310, 314; 14:360⁵.
- minor, *see* *Homalomyia canicularis*.
- familiaris Harris MS., *see* *Pollenia rudis*.
- floralis, *see* *Phorbia brassicae*.
- harpia Harris MS., *see* *M. domestica*.
- radicum, *see* *Anthomyia*.
- rudis, *see* *Pollenia*.
- Muscardine, 4:178.
- muscarum, Acarus (Hypopal form), 11:257.
- Trombidium, 7:365, 384; 14:367⁴.
- Muscidae, 1:169, 170, 211; 2:117; 5:225; 9:309, 310.
- muscosa, Erastria, 10:482.
- musculus, Anthonomus, erroneous reference of *A. signatus*.
- Musée royal d'histoire naturelle de Belge, 14:306¹.
- museum, Liposcelis, *see* *Atropos divinatoria*.
- Museum pest, 1:65; 2:36; 4:88, 93; 5:268; 6:121; 9:381.
- Mushroom Phora, 10:399-406; 12:352; 14:393³.
- Mushrooms, insects, etc., injurious to; *Boletina* species, 10:392. *Bolitophila cinerea*, 10:392. *disjuncta*, 10:392. *fusca*, 10:392.
- Bryobia pratensis*, 10:450, 486.
- Docosia sciarina*, 10:392.
- Drosophila funebris*, 1:220.
- Exechia fungorum*, 10:392. *species*, 8:172.
- Gamasus* species, 9:464.
- mites, 10:449; 12:352.
- Mycetobia pallipes*, 10:392.
- Mycetophila lunata*, 10:392. *signata*, 10:392.

- Mushrooms, insects, etc., injuries to;
Phora agarici, 10:403.
albidihalteris, 12:228, 261.
bovistae, 10:403.
flava, 10:403.
lutea, 10:403.
nigra, 10:403.
pumila, 10:403.
Plesiastina annulata, 10:392.
Rhizoglyphus rostratus, 10:449.
Rymosia fenestralis, 10:392.
Sciara multisetata, 12:224, 361.
species, 5:265; 6:188.
Sciophila striata, 10:392.
Snails, 7:366.
Tyroglyphus lintneri, 10:452-53; 12:352.
rostratus, 10:486; 14:377.
species, 11:257.
Muskmelon, insects injurious to;
Aphis gossypii (syn. *A. cucumeris*), 8:211; 11:168.
Chaulognathus marginatus, 3:153.
Diplosis cucumeris (syn. *Cecidomyia*), 8:212; 11:165-66.
setigera, 11:168.
Margaronia hyalinata (syn. *Eudiotis*), 10:503; 11:135; 14:386.
nitidalis (syn. *Eudiotis*), 3:140, 152; 10:503; 11:127, 132; 14:386.
Otiorynchus ovatus, 10:417.
Muskmelon borers or worms, 3:152; 10:403; 14:346.
Mustard, wild, insects on;
Epicauta pennsylvanica, 6:136.
Murgantia histrionica, 1:267.
Phyllotreta vittata (syn. *Haltica striolata*), 1:310.
mutabilis, *Microdon*, of Europe, 2:116.
Mutinus ravenalii, *Silpha americana*, 11:285.
Mycetobia pallipes, 10:392.
Mycetophila lunata, 10:392.
signata, 10:392.
species, 10:389.
Mycetophilidae, 1:219; 2:125; 5:264; 7:316; 8:172, 297; 10:387-99, 447; 12:223-28.
myellus, *Crambus*, 1:150.
Myer, H. G., insects from, 7:381.
Mylabris irsecta, see *Bruchus obtectus*.
rufimana Bohem., see *Bruchus rufimanus Bohem.*
rufimanus Schon., erroneous reference of *Bruchus lentis Bohem.*
mylitta, *Phyciodes*, 8:296.
Myndus impunctatus (syn. *Cixius*), 9:386, 410.
Myobia pumila, 11:177.
Myophasia aenea, 12:210.
myops, *Alaus*, 1:330; 5:317; 11:267; 14:339.
Myriapoda, attacking asters and lilies, 9:371-72, 441; attacking potatoes, 3:131-33; 10:445-49, 487; bibliography of two species, 3:133; contributions of, 3:142; 4:208; 5:326; 6:190; 7:384; 9:466; 10:513, 519; habits, 2:6; parasites, 3:133-34; reference, 5:251; 10:498; 11:252; 12:336; 14:363⁵, 383⁹; remedies, 3:134-35; species treated of, 3:131-33; 4:128-34; 5:295-96; 8:324-27; 12:300-3, 349.
myrina Argynnis, see *Brenthis*.
Brenthis (syn. *Argynnis*), 4:137.
Myrmeleon immaculatus, 7:318, 384; 9:440; 11:236, 237, 238, 240; 14:374.
ingeniosus, 11:238.
larva, 11:237.
nigrocinctus, 7:319.
ocellatus, see *Dendroleon obsoletum*.
pantherinus, 7:320.
pumilus, see *Brachynemurus*.
rusticus, 11:238.
species, 2:233; 11:234-41; 12:357; 14:312⁶, 395⁹.
tetragrammicus, 11:240.
Myrmeleonidae, bibliography, 11:240; species treated of, 11:234, 240.
Myrmica molesta, see *Monomorium pharaonis*.
Myrmicidae, 10:365-69; 11:109-14.
myron, *Ampelophaga* (syn. *Chaerocampa pampinatrix*, *Darapsa*, *Everyx*, *Otus*, *O. cnotus*, *Sphinx*, *S. pampinatrix*), 4:201, 202; 5:174-79, 307, 324; 7:381; 8:186-87, 295; 9:450; 10:481, 508, 509, 515; 12:354, 359; 14:309⁹, 317⁹, 350⁷, 351², 355⁸, 362⁶, 394⁵.
Darapsa, see *Ampelophaga*.
Everyx, see *Ampelophaga*.
Otus, see *Ampelophaga*.
Sphinx, see *Ampelophaga*.
Myrsiphyllum asparagoides, see *Smilax*.
mytilaspidis, *Aphelinus*, 1:61.
Mytilaspis pomicorticis, see *M. pomorum*.
pomorum (syn. *M. pomicorticis*, *Aspidiotus*, *A. conchiformis*, *A. juglandis*, *Coccus arborum-linearis*, *C. pyrus-malus*,

- Lepidosaphes conchiformis*, bibliography, 4:114; common apple tree pest, 4:115; 9:373; contributions of, 10:518; description of scale, 4:116; detailed account, 4:114-21, 195; life history, 4:116-18; occurring on 17 species of food plants, 9:464; on *Crataegus oxyacanthus*, 10:512; on willow, 2:232; 8:286; rapidity of increase, 4:115-16; reference, 1:8, 11, 331; 4:114, 185; 5:319; 6:165; 7:384; 8:293; 9:409, 411, 413; 11:201, 202, 271, 273, 274, 287; 12:448; 13:374; 14:316⁶; 334⁷, 340⁷, 344⁸, 347⁹, 357⁶, 359¹, 372⁵, 387¹, 391⁷; remedies, 3:146; 4:118-20; transportation of its parasites, 1:61.
- Myzoxylus mali*, see *Schizoneura lanigera*.
- Myzus cerasi* (syn. *Aphis*), attacking roots of peach trees, 2:19-22; bibliography, 5:253; description, 5:255-56; general account, 5:253-57; lady bug preying on, 5:257; 8:284; life history, 5:254-55; on wild goose plums, 9:440; ravages on cherry, 9:345-46; reference, 1:13; 2:122; 3:151; 8:125, 298; 9:293, 369, 405, 411, 412, 463; 10:365, 498; 12:350; 13:363³, 368¹; 14:362², 371³, 375⁴, 383¹, 392³, 397³, 400⁴; remedies, 2:21-22; 5:256-57.
- persicae see ?*Aphis prunicola*.
- ribis (syn. *Aphis*), 1:272; 2:145; 9:370-71; 10:498; 11:275-76; 13:363⁵; 14:360¹, 383³, 388³, 400⁴.
- Nacerdes melanura*, 8:299.
- Nacophora ypsilon* (syn. *Biston*), 11:266.
- Nadata behrensii*, see *N. gibbosa*.
- gibbosa (syn. *N. behrensii*), 8:296; 9:450, 456; 13:371⁹; 14:313³.
- naevius, *Nisoniades*, see ? *Thanaos*.
- Thanaos* (syn. *Nisoniades*), 1:333, 334, 336; 6:180; 14:307², 327¹.
- Names, J. B., insects from, 10:510.
- nana, *Tenebrioides* (syn. *Trogosita*), 1:330; 11:267.
- Trogosita*, see *Tenebrioides*.
- Nanophyes tamarisci*, 4:154.
- Napomyza lateralis*, 7:246.
- nasalis, *Gastrophilus* (syn. *Oestrus*), 1:299.
- Oestrus*, see *Gastrophilus*.
- nastes, *Colias*, see *Eurymus philodice*.
- Nasturtium*, insects, etc., injurious to;
cut worms, 8:236.
- Tetranychus telarius*, 5:289, 322.
- Thrips tabaci*, 11:244.
- nasuta, *Chlorops*, of Europe, 4:72.
- natata, *Ephemera*, see *E. simulans*.
- Palingenia*, see *Ephemera simulans*.
- Nathurst, E. A., insects from, 12:363.
- Nation*, abstracts from, 11:277, 282, 283; 12:349; 14:388⁷, 390⁸, 390⁹, 391⁷.
- Natural science association of Staten Island, *Proceedings* cited, 12:273.
- Naturaliste Canadien* cited, 5:164; 10:433.
- Naturalists' library* (Duncan), cited, 5:183.
- navale, *Lymexylon*, 4:195.
- navalis, *Tribolium*, see *T. ferrugineum*.
- Nebraska agricultural experiment station, *Bulletin* cited, 10:433; 11:182, 187; *Report* cited, 10:378.
- Nebraska bee killer, 1:318.
- Nebraska farmer* cited, 10:433.
- Nebraska state board of agriculture, *Report* cited, 12:192; 13:353³.
- Nebraska state horticultural society, *Report* cited, 11:250; 12:218, 254; 13:353³.
- nebris, *Gortyna*, see *Hydroecia nitela*.
- nebulosa, *Nemoura*, of Europe, 2:241.
- Neckweed, *Corimelaena pulicaria* on, 8:213.
- Necrophorus americanus*, 13:373¹.
- tomentosus, 5:289.
- Nectarine, insects injurious to;
Cureulio, plum, 1:308.
- Otiorhynchus tenebricosus*, 2:52.
- Nectarophora granaria* (syn. *Aphis*, *A. avenae*, *A. cerealis*, *A. hordei*, *Siphonophora*, *S. avenae*), 1:313, 316; 2:225; 3:112, 150; 5:246, 250, 251; 6:167; 8:295; 14:317⁷, 317⁹, 318⁴, 325¹, 331⁷, 345³, 346³, 352², 359⁸, 360², 361³, 362⁹, 365⁴, 371², 380⁹.
- rudbeckiae (syn. *Aphis*, *Siphonophora*), 9:406, 411, 412.

- Nectarophora solani* (syn. *Siphonophora*), 3:122.
solanifolia (syn. *Siphonophora*), 3:122.
- Neer, J. R., insects from, 10:511.
- neglecta*, *Lycaena*, see *Cyaniris pseudargiolus* var.
- Negro bug, flea like, 14:371⁵.
- Negundo aceroides*, see Box elder.
- Nematocampa filamentaria*, see *Ania limbata*.
- Nematode*, 8:221, 222.
- nematogaster*, *Panorpa*, 10:465.
- Nematus erichsonii*, see *Lygaeonematus*.
ribesii, see *Pteroncus*.
salicis-pomum, see *Pontania pomum*.
ventricosus, see *Pteroncus ribesii*.
- Nemora leucaniae*, see *Winthemia 4-pustulata*.
- Nemoura nebulosa*, of Europe, 2:241.
nivalis, 1:298; 2:240; 14:343².
- nenuphar*, *Conotrachelus*, see *C. nenuphar*.
Curculio, see *Conotrachelus*.
- Neoclytus capraea* (syn. *Cyllene*), 1:297.
erythrocephalus, 6:188; 10:511; 11:268; 12:246.
- nephele*, *Cercyonis* (syn. *Satyrus*), 5:285.
Satyrus, see *Cercyonis*.
- Nephelodes minians*, 1:107, 108.
var. *violans* (syn. *N. violans*), abundance of caterpillars in St. Lawrence county, 1:100-1; bibliography, 1:99; description of larva, 1:102-3; 4:55, 57; description of moth, 1:106-8; detailed account, 1:99-110; difficulty in rearing, 1:101-2; distribution, 1:108; natural history, 1:108-9; occurrence of larvae, 1:103-4; 4:54-56; 8:173; parasites of, 1:109-10; preventives and remedies, 1:110; published observations on, 1:104-5; reference, 1:127, 136, 149; 4:206; 6:180, 182; 8:235; 10:482; 14:327⁸, 328², 328⁹, 329⁹, 335⁶, 357⁶.
rubeolans, 1:107.
violans, see *Nephelodes minians* var.
- Nephelopsis*, *Lecanium hesperidum* on, 11:287.
- Nephoptyx zimmermani*, see *Pini-pestis*.
- Nepytiya semiclusaria* (syn. *Cleora pulchraria*), 4:20, 21; 9:450.
- nerii*, *Aphis*, of Europe, 3:122.
Aspidiotus, 2:32; 5:278, 317; 8:214; 11:203-4, 287; 14:339⁹, 363⁴, 369⁷.
- nervosa*, *Odontota* (syn. *O. rosea*), 1:331; 11:269.
Sciara, 5:265; 10:392, 489.
- nessus*, *Amphion*, 10:515.
- Nettle*, common, *Phytomyza chrysanthemi* (*P. lateralis* in error) mining, 4:77.
- Neumoegen*, Berthold, cited, 13:344³, 344⁵.
- Neuronia pardalis*, 12:298-99; 14:399².
- Neuroptera*, classification, 1:79; 4:167, 190; 8:302; 9:465; contributions of, 4:208; 5:326; 6:189; 8:300; 9:464; 10:512; 11:288; larval habits of, 1:74; new species described, 1:298; number of species, 4:165, 181; reference, 1:162, 316; 4:10; 5:286; 10:377; 11:272; 12:344; species treated of, 4:121-24; 7:318-20; 8:155-62; 10:463-80; 11:234-41; 12:298-99.
- Neuroterus saltatorius*, 7:309.
verrucarum, 5:308, 324.
- nevada*, *Eudamus*, see *E. mexicana*.
- Nevada agricultural experiment station*, *Bulletin* cited, 12:293.
- New England farmer* cited, 2:57; 4:27; 7:360; 10:416; 14:365³.
- New England homestead* cited, 3:144, 146, 147, 148, 149, 152; 4:103, 194, 202; 5:305, 306, 309, 316, 317, 318, 319, 321, 323; 6:168, 169, 172; 7:256, 362, 363, 367; 8:141, 281, 282, 284; 9:318; 14:339⁴, 340¹, 340³, 340⁶, 341³, 342¹, 344⁴, 344⁷, 344⁸, 344⁹; 345¹, 345³, 345⁷, 346¹, 347⁹, 351², 355², 355⁴, 358¹, 360⁶, 360⁷, 363⁷, 366¹, 366⁴, 368⁹, 370⁵, 370⁸, 371⁶.
- New Hampshire agricultural experiment station*, *Bulletin* cited, 12:194, 238; *Report* cited, 12:254.
- New Jersey agricultural experiment station*, *Bulletin* cited, 5:220; 11:216, 231, 232, 233; 12:192, 253, 268, 272; *Report* cited, 8:141; 10:378, 478; 11:173, 177, 211, 233, 241, 242; 12:190, 218, 235, 248, 253, 272.
- New Jersey state board of agriculture*, *Report* cited, 14:360⁴.
- New Jersey tea*, *Corimelaena pulicaria* on, 8:213.

- New Mexico agricultural experiment station, *Bulletin* cited, 10:433; 11:222, 232, 233, 250; 12:193; 13:353⁵.
- New York agricultural experiment station (Geneva), *Bulletin* cited, 2:118, 234; 5:312, 315; 11:178, 233, 242; 12:193; 14:336⁷, 337⁶; *Report* cited, 11:178, 242. *See also* Cornell university agricultural experiment station.
- New York daily tribune*, abstract from, 12:352-53; cited, 12:190; 14:385⁶, 393⁹.
- New York entomological club, 14:305⁹.
- New York entomological society, *Journal* cited, 12:215, 273; 13:343³, 344⁵.
- New York farmers, *Proceedings* cited, 5:300; 14:353².
- New York homestead* cited, 10:488, 490; 14:378⁹, 379².
- New York microscopical society, *Journal* cited, 9:300, 301, 307; 11:182; 12:273; quoted, 12:290, 291.
- New York recorder*, abstract from, 12:352; cited, 12:190; 14:393⁷.
- New York state agricultural society, 14:306³; *Bulletin* cited, 8:152, 154; 14:338⁹; *Monthly journal* cited, 12:290; *Report* cited, 1:111, 152, 163, 221, 233, 254; 5:312, 318; 6:173, 178, 182, 184; 7:373; 14:320¹, 324², 326³, 329², 329³, 337³, 340², 349⁵, 351⁹; *Transactions* cited, 1:87, 172, 184, 194, 201, 202, 221, 227, 239, 253, 271, 281; 2:68, 102, 125, 132, 148, 164, 168, 180, 203; 4:27, 107, 114; 5:184, 201, 215, 234, 246, 253, 316; 6:147, 171, 173, 178, 182, 184; 7:373; 8:152, 153; 9:299, 317; 11:109, 146, 248; 12:218, 243, 264; 13:338³, 342⁹, 351⁵; 14:320¹, 320², 324³, 326³, 329², 329³, 339³, 356⁹, 356⁷, 360³, 361¹, 361². *See also* Insects of New York (Fitch).
- New York state cabinet of natural history, *Report* cited, 1:99, 281; 5:242; 8:152, 153; 9:448, 449, 450; 14:311⁹.
- New York state department of agriculture, *Circular*, abstract from, 12:252; cited, 12:190.
- New York state fishery commission, *10th annual report* cited, 7:373; 14:319⁶.
- New York state museum, *Bulletin*, abstract of, 11:277; 14:356³, 356⁷, 388³; cited, 5:207, 308; reprint of bulletin, 11:200-33. *Circular* cited, 2:149; 14:335²; *Report* cited, 1:116; 2:69, 97, 149, 233; 4:57; 5:184, 193, 201, 207, 309, 316; 7:228, 365, 372, 374; 8:133, 152, 290, 292; 9:299, 439, 450, 451, 452, 453, 455, 456, 457; 10:497, 498; 11:160; 13:343⁴, 348⁹, 352³; 14:306⁹, 314⁸, 314⁹, 315⁸, 315⁹, 319⁴, 321¹, 339⁹, 357¹, 362², 367⁶, 374², 381⁹, 383², 392⁷, 395⁴, 398⁹, 399⁹. *See also* Insects of New York (Lintner).
- New York times* cited, 7:358, 360; 8:279; 14:364², 365², 369⁹.
- New York tribune* cited, 7:255; 9:300; 10:388, 502.
- New York weekly tribune* cited, 5:314; 11:181; 14:338⁴.
- Newberry, J. S., insects from, 10:518; on Cicada chambers, 12:283-85.
- Newman, Edward, cited, 2:116.
- Newport, George, cited, 4:128.
- Newstead, Robert, cited, 10:405.
- ni, Plusia, of Europe, 1:189; 2:89, 90, 92; 6:184.
- ni Grote, Plusia, erroneous reference of *P. brassicae*.
- Nichols, D. A. A., insects from, 4:207.
- Nichols, J. B. & Son, insects from, 10:513.
- nictitans, Gortyna, *see* Hydroecia.
- Hydroecia (syn. Gortyna), 1:115, 340; 10:482.
- niger, Chrysops, 9:462; 12:361.
- Nigger killer, 6:190.
- nigra Caenis, *Hagen MS.*, 4:123.
- Cecidomyia, *see* Diplosis pyrivora.
- *Diplosis, *see* D. pyrivora.
- Formica, *see* Lasius.
- Lasius (syn. Formica), 10:368.
- Phlaeothrips, 11:249.
- Phora, 10:403.
- Sciara, 10:394.
- nigricana, Laspeyresia, 13:372⁵.
- var. maizi, Agrotis, *see* Carneades tessellata.
- nigricollis, Clastoptera, sub species, 9:395.
- nigricornis, Phytomyza, 4:79; 7:242.
- Urocerus, 13:342², 342⁴.
- nigrilabris, Brachynemurus, 11:238.
- nigrinasi, Athysanus, *see* Bythoscopus.
- Bythoscopus (syn. Athysanus), 9:401, 410.
- nigrinodis, Cordylopeza, *see* Galasa rubidana.
- nigripes, Cassida, 6:127; 7:363, 383; 14:366⁴.

- nigrirostris, *Phytonomus*, 1:248.
 nigrocinctus, *Myrmeleon*, 7:319.
 nigrofasciatum, *Lecanium* (*L. persicae* in error), 7:379, 380; 14:323⁴, 323⁷.
 nigrum, *Isosoma*, see *I. tritici* Fitch.
 nimbatana, *Antithesia*, see *Penthina*.
 Penthina (syn. *Antithesia*, *Penthina contrariana*), 1:57; 2:228, 230; 4:206; 5:213-15; 6:139; 10:483; 14:332⁹, 362⁷.
 Nisoniades, 1:333, 335, 336; 2:214; 5:285; 7:371; 9:449.
 afranius, see ?*Thanaos*.
 ausonius, see *Thanaos*.
 brizo, see *Thanaos*.
 funeralis, see *Thanaos*.
 horatius, see *Thanaos*.
 icelus, see *Thanaos*.
 juvenalis, see *Thanaos*.
 lucilius, see *Thanaos*.
 martialis, see *Thanaos*.
 naevius, see ?*Thanaos*.
 pacuvius, see ?*Thanaos*.
 persius, see *Thanaos*.
 petronius, see *Thanaos*.
 propertius, see *Thanaos*.
 somnus, see ?*Thanaos*.
 terentius, see *Thanaos*.
 tibullus, 1:335.
 tristis, see *Thanaos*.
 virgilius, see *Thanaos horatius*.
 nitela, *Hydroecia*, see *Hydroecia nitela*.
 nitida, *Aleochara* (syn. *A. anthomyiae*), 1:188.
 Allorhina, 1:237, 238, 239; 2:114; 5:319; 6:183; 9:353; 10:516; 11:268, 286; 13:369⁵; 14:329⁷, 340⁸, 398³.
 Thalessa, 4:41.
 nitidalis, *Eudioptis*, see *Margaronia*.
 Margaronia, see *Margaronia nitidalis*.
 Phacellura, see *Margaronia*.
 Phakellura, see *Margaronia*.
 Phalaena, see *Margaronia*.
 Nitidulidae injuring apple trees, 11:267.
 nivalis, *Degeeria* (syn. *Podura*), of Europe, 2:244.
 Nemoura, 1:298; 2:240; 14:343².
 Podura, see *Degeeria*.
 niveosericearia, *Geometra*, see *Ennomos subsignarius*.
 niveus, *Oecanthus*, see *Oecanthus niveus*.
 nivicola, *Achorutes*, see *Schoturus*.
 Perla, see *Capnia pygmaea*.
 Podura, see *Schoturus*.
 nivicola, *Schoturus*, see *Schoturus nivicola*.
 nivoriundus, *Boreus*, 1:298; 2:237-38; 14:343³.
 Chironomus, 1:13, 298; 2:242-43; 14:343³.
 noctilucus, *Pyrophorus*, see *Pyrophorus noctilucus*.
 Noctua baja (syn. *Agrotis*), 1:8, 340; 10:377.
 bicarnea (syn. *Agrotis*), 1:340; 10:377.
 clandestina (syn. *Agrotis*), 1:328; 5:282, 317; 6:175; 8:199, 235; 10:482; 11:121, 265; 14:325⁷, 339⁶.
 c-nigrum (syn. *Agrotis*), 1:8; 10:482; 12:205.
 edusa, see *Homoptera lunata* var.
 fennica (syn. *Agrotis*), 8:235, 236.
 haruspica (syn. *Agrotis*), 10:482.
 lunata, see *Homoptera*.
 normaniana, 10:377.
 plecta (syn. *Agrotis*), 1:8; 10:482.
 saucia, see *Peridroma*.
 noctuella, *Nomophila*, 11:143.
 Noctuidae, attracting to bait, 1:70; collection of (abstract), 9:453; dates of collection of, 10:481-82; delayed pupation in, 1:137; depredating on the apple tree, list of, 1:328; 11:265; duration of life, 1:341; 6:184; larvae of, described (abstract), 9:455; notes on *N. Y.* species, 9:456 (abstract); 10:376-77; oviposition in confinement, 1:340; reference, 1:136, 140, 312; 8:292; 9:450; 10:490; 14:330²; scent organs in, 1:71; sensitiveness to paris green, 1:35; species treated of 1:99-126; 2:89-97; 4:54-57; 5:200-13; 8:231-45; 10:372-76; 12:190-214.
 Noloophana malana, see *Balsa*.
 Nomophila noctuella, 11:143.
 Nördlinger, Hermann, *Die Kleinen Feinde*, cited, 8:140.
 Norman, George, cited, 1:99.
 normaniana, *Noctua*, 10:377.
 North Carolina agricultural experiment station, *Bulletin* cited, 10:454; 11:146; 12:193, 268.
 Norton, Edward, cited, 5:173; 13:335³, 338⁴, 340⁸; quoted, 13:337³, 341⁵; referred to, 12:308; 13:339⁷, 342².
 nortoni, *Thalessa*, 4:41.
 Norway maple, see *Maple*, Norway.

- notata, Euxesta, 11:267.
 notatifrons MS., Anthomyia, 1:195.
 Notman, Mrs George, insects from, 9:464.
 Notman, Howard, figure of *Neuronia pardalis* by, 12:299.
Notodonta concinna, see *Schizura dictaea*, see *Pheosia dimidiata* species, 14:313⁵.
Notodontians, their delayed pupation, 1:137.
Notolophus antiqua (syn. *Orgyia*, *O. nova*), 1:98; 7:219, 381; 8:289; 11:264, 285; 14:373⁸.
definita (syn. *Orgyia*), 4:50; 8:289, 296; 14:373⁸.
leucostigma (syn. *Orgyia*), additional molt in female, 1:98; bibliography, 2:68-69; description of stages, 2:70-73; depredations, 2:77-78; 9:295, 429; detailed account, 2:68-89; distribution, 2:69; English sparrow protects it, 2:80-82; food plants, 2:76-77; natural history, 2:73-76; new form of attack, 2:86-89; 4:15, 48-49; 5:317; 11:124-26; 12:347, 350; parasites, 2:78-79; 5:310; ravages, great increase of, 2:79-80; reference, 1:72, 328; 4:7; 5:321; 6:107; 7:216, 331; 8:296; 9:450, 455; 10:481, 495, 515; 11:121, 264, 279; 12:357; 14:313⁵, 328⁶, 339⁶, 341³, 342⁵, 357⁵, 358⁸, 380⁹, 388², 391², 392², 395⁶; remedies and preventives, 1:33, 61, 64; 2:83-86; 6:181; 9:437; second brood in N. Y., 4:50-51; 11:125.
vetusta (syn. *Orgyia*), 11:285.
 var. *cana* (syn. *Orgyia cana*), 8:296.
Notonecta undulata, 8:158.
Notoxus calcaratus, 11:269.
 monodon, 11:269.
nova, *Orgyia*, see *Notolophus antiqua*.
noveboracensis, *Aulacizes*, see *Diedrocephala*.
 Cicada, see *C. rimosa*.
 Curculio, see *Ithycerus*.
Diedrocephala (syn. *Aulacizes*), 9:396, 410.
Formica, see *Camponotus herculeus*.
Ithycerus (syn. *Curculio*, *Pachyrhynchus schönherri*, 1:300, 331; 11:270.
novemnotata, *Coccinella*, 7:382; 11:276; 12:361.
Novius cardinalis (syn. *Vedalia*), 6:105; 7:360, 382; 14:365².
nubeculana, *Phoxopteris*, 1:329; 8:123, 297; 11:266.
nubilata, *Prochoerodes*, see *Sabulodes*.
 Sabulodes (syn. *Prochoerodes*), 11:266.
nubilis, *Catocala*, 10:482.
 Euparthenos (syn. *Parthenos*), 3:136.
 Parthenos, see *Euparthenos*.
numitor, *Ancyloxypha*, 9:461.
nupera, *Calocampa*, 9:459; 14:307⁶, 314⁷.
nuptialis, *Catocala*, 11:266.
nuttalli, *Cantharis* (syn. *Lytta*), 8:294; 14:317⁴.
 Lytta, see *Cantharis*.
 Trichodes, 3:138.
nycteis, *Charidryas* (syn. *Melitaea*), 9:448; 14:311⁶.
 Melitaea, see *Charidryas*.
Nycteribidae, 1:79.
Nyctobates pennsylvanicus, see *Alobates*.
Nyctobora holosericea, 13:375².
Nysius angustatus (syn. *N. destructor*), 1:195, 331; 2:166; 5:321; 11:270; 14:341⁵.
 destructor, see *N. angustatus*.
Nyssa sylvatica, see *Sour gum tree*.
nyssaefoliella, *Antispila*, see *Antispila nyssaefoliella*.
Oak, insects injurious to;
 Acordulecera dorsalis, 13:371⁴.
 Amphibolips prunus, 4:42.
 Amphicerus bicaudatus, 2:130.
 Anisota rubicunda (syn. *Dryocampa*), 5:200.
 senatoria, 2:230; 5:195, 197; 9:453.
 stigma, 5:199.
 virginiensis (syn. *A. pellucida*), 5:199.
 Archasia galeata (syn. *Smilia auriculata*), 9:389, 410.
 Atymna inornata (syn. *Cyrtolobus*, *Smilia*), 9:388, 410.
 querci (syn. *Smilia*), 9:389, 410.
 Basilona imperialis (syn. *Eacles*), 13:350⁸.
 Cacoecia argyrospila, 6:356; 7:356.
 Carynota marmorata (syn. *Cyrtosia*), 9:389, 410.
 Cecidomyia balsamicola, 4:63.
 Chermes strobilobius (syn. *C. atratus*), 2:185.

Oak, insects injurious to (*cont'd*)

- Chrysobothris femorata*, 6:155.
Cicada septendecim, 12:274, 287.
Cincinnati melsheimerii (syn. *Perophora*), 7:381.
Clastoptera obtusa (syn. *C. testacea*), 9:393.
Corythuca polygrapha Uhler MS., 4:109.
Cyrtolobus vau (syn. *Smilia*), 9:388, 410.
Datana integerrima, 12:309.
Dynastes tityus, 5:230.
Elaphidion villosum (syn. *E. parallelum*), 3:150; 5:153, 268; 6:170; 9:358-60; 10:516; 12:314; 13:359⁸; 14:361⁸.
Euphoria inda, 1:236.
Gypona flavilineata, 9:397.
Homoptera lunata, 4:58.
Hydroecia nitela (syn. *Gortyna*), 1:111.
Icerya purchasi, 4:187.
Lachnus quercifoliae, 9:407.
Macroactylus subspinosus, 1:229.
Mellisopus latiferreana, 4:153.
Myndus impunctatus (syn. *Cixius*), 9:386, 410.
Neuroterus verrucarum, 5:308, 324.
Notolophus leucostigma (syn. *Orgyia*), 2:77.
Odontota dorsalis, 12:266.
Otiocerus abbotii, 9:386.
 coquebertii, 9:386.
 kirbyii, 9:386.
Phobetron pithecium, 5:187; 9:461.
Plagionotus speciosus, 12:238, 242.
Porthetria dispar (syn. *Orgyia*), 7:303.
Prionoxystus robiniae (syn. *Cossus*), 9:426.
Schizoneura querci, 3:125.
Sinoxylon basilare, 2:130.
Smilia camelus (syn. *S. vittata*), 9:389.
Stictocephala inermis (syn. *Smilia*), 9:388, 410.
Systema marginalis, 4:156.
Telamona monticola (syn. *T. querci*), 9:391, 410.
 reclivata, 9:391.
Thelia univittata, 9:392.
Tremex columba, 2:227; 4:38.
Thyridopteryx ephemeraeformis, 1:84.
Typhlocyba querci (syn. *Empoia*), 9:403, 410.

Oak, insects injurious to (*cont'd*)

- Vanduzeei arquata* (syn. *Carynota*), 9:388, 410.
Xylotrechus colonus, 4:93, 194.
 black, insects injurious to;
 Amphibolips prunus, 4:42.
 Anisota senatoria, 5:197.
 blue jack, *Andricus saltatus* on, 7:309.
 bur, *Neuroterus saltatorius* on, 7:309.
 dwarf chestnut, *Anisota senatoria* on, 5:193, 197.
 post, *Neuroterus saltatorius* on, 7:309.
 red, insects injurious to;
 Anisota senatoria, 5:197.
 Cynips prunus, 4:205.
 Elaphidion villosum (syn. *E. parallelum*), 6:170.
 Odontota dorsalis, 12:266.
 Phobetron pithecium, 5:187.
 scarlet, *Anisota senatoria* on, 5:197.
 scrub, insects injurious to;
 Anisota senatoria, 5:197.
 Cynips operator, 4:205.
 Kermes galliformis, 12:317, 363.
 Megalopyge crispata (syn. *Lagoa*), 9:452.
 swamp white, *Cynips glandulosus* on, 4:44.
 white, insects injurious to;
 Anisota senatoria, 5:197.
 Neuroterus saltatorius, 7:309.
 Odontota dorsalis, 12:266.
 Phobetron pithecium, 5:187.
 Oak apples, *Bibio albipennis* on, 2:113.
 Oak caterpillar, yellow striped, 5:192.
 Oak galls, 5:308; 14:356²; *Caecilius* and *Elipsocus* in, 1:161.
 Oak Kermes, 12:316-17; 14:399⁵.
 Oak plum gall *Cynips*, 4:42, 205; 14:357¹.
 Oak pruner, 3:141, 150; 4:179; 5:153, 268, 325; 6:170; 12:239, 354; 13:359⁷, 373⁸; 14:361⁵, 363³, 394⁵, 399⁴, 400².
 Oates, E. F., insects from, 4:208.
 Oats, insects injurious to;
 Blissus leucopterus, 1:7; 2:151.
 Cephus pygmaeus, 7:334.
 Leucania unipuncta, 12:196, 197, 198, 206, 309.
 Nectarophora granaria (syn. *Aphis*, *A. avenae*, *Siphonophora avenae*), 2:225; 3:114; 5:247, 249, 250; 6:103; 7:218; 8:222.

- Oats, insects injurious to (*cont'd*)
 Psocid species, 12:364.
 Silvanus surinamensis, 9:462.
 Sitotroga cerealella, 2:106.
 Thrips species, 11:250.
 wire worms, 8:197.
- obeliscoides, Carneades, 13:372³.
- Oberea basalis, *see* O. bimaculata.
 bimaculata (syn. O. basalis, O. perspicillata, O. tripunctata, Saperda affinis, S. bimaculata, S. tripunctata), 1:57, 297; 4:47, 189, 207; 5:231-33; 7:369; 9:457; 11:170, 171; 14:314³, 318², 362⁸.
 ocellata (syn. Elaphidion), 11:268.
 perspicillata, *see* O. bimaculata.
 schaumii, 5:233.
 species, 11:269.
 tripunctata, *see* O. bimaculata.
- obesa, Amara, 10:493.
 Siphonella, 1:225.
- obesum, Anobium *see* Sitodrepa panicea.
 Scolytus, *see* Xyleborus dispar.
- obesus, Xyleborus, *see* X. dispar.
- oblineatus, Capsus, *see* Lygus pratensis.
- oblinita, Acronycta, 9:456; 11:265.
- obliqua Erythroneura, *see* Typhlocyba.
 Typhlocyba (syn. Erythroneura), 9:403, 410.
- obliteralis, Loxostege (syn. Botis marculenta), 10:483.
- oblongifolia, Amblycorypha (syn. Phylloptera), 6:189; 7:369; 9:464; 10:512, 519; 11:284, 288; 12:363; 14:318¹.
- Phylloptera, *see* Amblycorypha.
- obovatus, Gamasus, 3:134; 10:451.
- obscura, Cistela, *see* Hymenorus obscurus.
- Sciara, 12:226.
- obscorella, Phytomyza, 4:79.
- obscuripes, Formica, 12:182.
- obscurus, Bruchus, a probable error for B. obtectus.
 Hylastinus, *see* Hylastes trifolii.
- Hymenorus (syn. Cistela obscura), 1:331; 2:226; 6:129; 11:269; 14:332³, 367⁹.
- Tenebrio, 8:110, 177; 9:307-9, 442, 463; 10:498; 14:375⁶, 383⁴.
- Observer of nature cited, 11:126, 134, 181.
- obsidianator, Troglus, 7:228.
- obsoletum, Dendroleon (syn. Myrmeleon ocellatus), 7:319; 9:440; 11:237, 238, 240; 14:374⁷.
- obsoletus, Brachytarsus, *see* B. variegatus.
 Bruchus, *see* B. obtectus.
- obtectus, Bruchus (syn. B. breweri, B. fabae, B. fabi, B. granaria, B. irresectus, B. obsoletus, B. pallidipes, B. subellipticus, B. varicornis, Mylabris irresecta, B. obscurus and B. subarmatus in error), 2:49, 228; 6:178, 185; 7:217, 255, 256, 257, 261, 262, 263, 264, 278, 279, 367, 383; 8:298; 9:440, 463; 10:382, 511; 11:286; 12:362; 14:327², 330⁷, 333², 368⁸, 374⁵.
- obtrusa, Diplax, 4:208.
- obtusa, Cercopis, *see* Clastoptera.
 Clastoptera (syn. C. achatina, C. pini, C. testacea, Cercopis), 5:242-46; 8:107, 152-53, 299; 9:393-94, 410; 10:497; 14:362⁹, 382³.
- Empoasca, 11:270.
- obtusus, Balaninus, 12:271.
- occidentalis, Acronycta, 1:328; 11:265.
 Cerura, 1:137; 7:375; 14:307³, 321⁵.
- oceanus, Pyrgus, *see* P. macaira.
- ocellana, Tmetocera, *see* Tmetocera ocellana.
- ocellaris, Sciara, 10:388.
- ocellata, Anatis (syn. A. 15-punctata), 3:116; 5:305; 8:284, 298; 13:362⁶, 373²; 14:354⁸, 371⁰.
- Elaphidion, *see* Oberea.
- Oberea (syn. Elaphidion), 11:268.
- ocellatus, Myrmeleon, *see* Dendroleon obsoletum.
- Smerinthus, *see* S. geminatus var.
- ochracea, Systema, *see* S. taeniata.
- Tribolium, *see* T. ferrugineum.
- ochrolabis, Sciara, 10:394; 12:227.
- Ocnaria dispar, *see* Porthetria.
- octolineata, Gypona (syn. Tettigonia), 9:397.
 Tettigonia, *see* Gypona.
- octomaculata, Agarista, *see* Alypia.
 Alypia (syn. Agarista, Sesia, Sphinx, Zygaena), 1:33; 5:179-83; 6:177; 8:296; 9:455; 10:481; 13:371⁷; 14:313², 326⁴, 362⁶.
- Sesia, *see* Alypia.
- Sphinx, *see* Alypia.
- Zygaena, *see* Alypia.
- ocularia, Ecpantheria, *see* Ecpantheria ocularia.
- oculatissima, Phalaena, *see* Ecpantheria ocularia.

- oculatus, *Alaus*, 1:330; 2:230; 4:141, 207; 5:317, 325; 6:189; 9:448; 11:267; 12:361; 14:311⁴, 333⁸, 339⁹, 357⁹.
Ocyptera euchenor, 12:210.
Odonata, 4:180; 10:377; 11:104-5.
Odontota dorsalis (syn. *O. scutellaris*, *O. suturalis* in error, *Anoplitis scutellaris*, *Chrysomela scutellaris*, *Hispa suturalis*), bibliography, 12:264-65; description of beetle and larvae, 12:266; distribution, 12:267; figures of, 12:265, 267; food plants, 11:269; 12:266; in West Virginia, 12:265-66; on Long Island, 12:265; parasites, 12:267; reference, 1:309, 320; 10:369; 11:269; 13:374¹; 14:399⁶.
nervosa (syn. *O. rosea*), 1:331; 11:269.
rosea, see *O. nervosa*.
rubra, 11:269.
scutellaris, see *O. dorsalis*.
suturalis, erroneous reference of *O. dorsalis*.
odontotae, *Smicra* (syn. *Spilochalcis*, 12:267.
Spilochalcis, see *Smicra*.
Trichogramma, 12:267.
odora, *Erebus*, 4:138; 7:306; 9:440; 14:357⁹, 374⁸.
Odynerus, 6:111.
capra, 9:461.
philadelphiae, 7:229.
Oecanthus, 10:486.
fasciatus, 5:310; 6:189; 10:486; 11:284; 14:358⁷, 377⁷.
latipennis, 5:312; 14:337⁴.
niveus, habits, 5:302; ovipositing in peach twigs, 4:147; ovipositing in poplar, 8:384; reference, 1:315, 332; 5:310, 312, 326; 6:189; 8:293; 9:464; 10:486, 512, 519; 11:271, 284, 288; 14:316⁷, 350⁸, 353⁷, 357⁹, 358⁷, 377⁷.
Oecidium pyratum, aecidial form of *Gymnosporangium macropus*, 6:182; 14:328⁸.
Oecophora granella, see *Sitotroga cerealella*.
Oedemagena tarandi, 6:111.
Oedemasia concinna, see *Schizura*.
eximia, see *Schizura*.
salicis, 11:265.
Oedionychus thoracica, 13:373⁸.
Oedipoda phoenicoptera, see *Hippiscus tuberculatus*.
virginiana, see *Chortophaga viridifasciata*.
oedipodinis, *Sarcophaga*, 12:210.
Oenectra pilleriana, 1:56.
Oenothera biennis, *Deilephila chamaenerii* on, 12:359.
Oestlund, O. W., cited, 5:246; 12:290.
Oestridae, 1:299; 2:46; 6:111; 7:367.
Oestrus bovis, see *Hypoderma*.
equi, see *Gastrophilus*.
nasalis, see *Gastrophilus*.
ovis (syn. *Cephalomyia*), 1:299.
Ogdensburg daily journal cited, 1:127; 6:182; 14:329⁸.
 Ohio agricultural experiment station, *Bulletin* cited, 11:122, 146, 152, 178, 219, 233, 242; 12:191, 248, 265, 273; 13:352⁷; *Report* cited, 7:256.
 Ohio farmer cited, 7:321, 368; 10:408; 14:359¹.
Oiketicus townsendi, 11:264.
 Oil beetles, 6:119, 131; 9:458; 10:511; 11:286; 14:314⁶, 367⁹.
oleae, *Lecanium*, 1:332; 11:271.
Oleander, insects injurious to;
Aspidiotus nerii, 2:32; 5:279, 317; 8:214, 279; 11:203, 264; 14:369⁷.
Lecanium hesperidum, 2:32.
oleivorus, *Typhlodromus*, 3:144; 4:177; 8:281; 10:503; 14:370⁷.
Olene achatina (syn. *Parorgyia parallela*), 1:328; 9:455; 11:264; 14:313⁸.
oleracea, *Pieris*, 1:322; 4:136; 7:219; 9:444, 449; 10:507; 12:308; 14:309⁴, 311⁹.
Oliarus quinquelineatus (syn. *Cixius*), 9:386, 410.
olinalis, *Pyrallis*, erroneous reference of *P. costalis*.
olitoria, *Coelidia*, see *Jassus olitorius*.
olitorius, *Jassus* (syn. *Coelidia*, *C. subbifasciata*), 9:398, 410.
olivacea, *Mamestra*, 10:377.
Olive, *Aspidiotus ancyclus* on, 11:287.
Olivier, A. G., cited, 1:232, 247; 2:102, 132, 187; 5:234; 9:300; 11:174; *Entomologie, ou histoire naturelle des insectes, Coléoptères* cited, 2:132; 4:93; 5:231; 9:300; 10:416; 12:264; quoted, 11:174.
Olliff, A. S., cited, 2:136; 11:232.
Oncideres cingulata, 1:331; 2:87; 11:269; twig girdler, 11:125.
Oncocnemis atrifasciata (syn. *Homohadena*), 5:285.
Oneida historical society, 14:305⁸.
Oneonta herald quoted, 12:196.

- Onion, insects, etc., injurious to;
Agrotis ypsilon, 8:126, 188-91, 296; 14:371^s, 382^s.
Carneades messoria (syn. *Agrotis*), 8:188, 236.
 cut worms, 4:13; 8:236.
Leucania unipuncta, 12:206.
Phorbia ceparum, 1:172; 2:28; 3:85; 4:13; 10:486.
 fusciceps (syn. *P. cilicrura*), 1:181.
Polydesmus complanatus, 3:133; 12:301.
 serratus, 12:301.
Thrips tabaci, 11:242, 243, 245; 13:363^o.
 wire worms, 4:13.
- Onion fly (*Phorbia ceparum*), American, compared with the European, 1:179-80; bibliography, 1:172; detailed account, 1:172-81; generic position, 1:180-81; indication and progress of attack, 1:175-76; insect enemies, 1:176-77; loss caused by, 3:85; natural history, 1:173-75; references, 1:8, 191, 192, 196, 200, 204, 296, 322; 9:375; 14:335^s, 377^r; remedies and preventives, 1:46, 52, 177-79; 10:486.
- Onion maggot, 2:28; 4:13; 5:319; 14:340^r.
- Onion Thrips, 11:241-47; 12:357; 13:363^s; 14:395^o.
- onopordinis, *Tephritis*, 1:49, 52.
- ontariella, *Depressaria*, *see* *D. heracillana*.
- Ontario agricultural experiment station, *Bulletin* quoted, 11:119.
- Ontario county times cited, 1:116; 117; 3:143; 5:312; 6:185; 14:332^r, 337^o, 337^o, 343^s.
- Oospora scabies, 10:446, 487; 14:377^o.
- opaculus, *Hylesinus*, 4:144, 145; 7:352; 9:367; 14:350^o, 357^o.
Lyctus, 2:130.
- operator, *Andricus* (syn. *Cynips*), 4:205.
Cynips, *see* *Andricus*.
- opercularis, *Lagoa*, *see* *Megalopyge*.
Megalopyge (syn. *Lagoa*), 1:328; 4:51, 52, 206; 11:264; 14:357^o.
- Operophtera boreata, 11:266.
- Ophion arctiae, 7:228; 12:183, 189.
 bilineatum, 4:205.
 macrurum, 7:228.
 purgatum, 12:193, 211.
- opimus, *Phytonomus*, *see* *P. punctatus*.
- oppositus, *Leptoglossus*, 3:141, 153; 14:346^r.
- Opsicoetus personatus (syn. *Reduvius*), 4:112, 133; 5:316; 13:374^s; 14:339^o.
opthalmicus, *Smerinthus*, 9:451.
- Optilete, *see* *Carynota*.
- Orange, insects, etc., injurious to;
Aramigus fulleri, 2:143.
Aspidiotus nerii, 8:215.
Elaphidion villosum (syn. *E. parallelum*), 9:359.
Heraclides crespontes (syn. *Papilio*), 9:337.
Icerya purchasi, 4:187, 188; 6:104; 7:340.
Megalopyge opercularis (syn. *Lagoa*), 4:53.
Monomorium carbonarium, 10:366.
 pharaonis (syn. *M. molestum*), 10:366.
Mytilaspis pomorum, 4:115.
Phobetrus pithecium, 5:187.
Solenopsis geminata, 10:366.
Stagmomantis carolina (syn. *Mantis*), 4:161.
Thrips species, 11:248, 249, 250.
Typhlodromus oleivorus, 3:144; 8:281.
- Orange county farmer cited, 3:148; 5:303, 305; 8:286; 9:318; 10:492, 496; 12:235; 14:354^s, 354^o, 372^r, 379^r, 381^o.
- Orange Judd farmer cited, 7:357; 14:364^r.
- Orange mite, 10:503.
- Orange rust mite, 4:177.
- oratoria, *Mantis*, 4:162.
- orbitalis, *Evacanthus*, 9:397.
- Orchard grass, *Nectarophora granaria* (syn. *Siphonophora avenae*) on, 5:252.
- Orchelimum glaberrimum, 11:271.
- Orchesella flavo-picta, 2:207.
- Orchestris vittata, *see* *Phyllotreta*.
- Oreutt, I. H. and Aldrich, J. M., cited, 11:182.
- Oregon agricultural experiment station, *Bulletin* cited, 10:454.
- oregonensis, *Euchaetes*, 9:455; 14:313^s.
- Orgyia antiqua, *see* *Notolophus*.
 cana, *see* *Notolophus vetusta* var.
 definita, *see* *Notolophus*.
 leucostigma, *see* *Notolophus*.
 nova, *see* *Notolophus antiqua*.
 vetusta, *see* *Notolophus*.
- orgyiae, *Cratotechus* (syn. *Trichogramma*), 1:303; 2:79.
- Tachina, *see* *T. mella*.

- orgyiae, *Tetrastichus*, 2:79.
Trichogramma, see *Cratotechus*.
 Oribatidae, 5:290.
orientalis, *Periplaneta* (syn. *Stylopyga*), 1:62; 7:325; 12:363; 13:375¹.
Stylopyga, see *Periplaneta*.
 Oriole, feeding on *Cicada*, 12:289.
 Baltimore, feeding on army worm, 12:209.
Ormenis pruinosa (syn. *Poeciloptera*), 9:387, 410.
 Ormerod, E. A., insects from, 7:383;
Injurious farm and fruit insects of South Africa cited, 7:256; *Manual of injurious insects* cited, 1:172, 184, 191, 239; 5:246; 7:279, 280; 11:249; 14:368⁶; *Observations on injurious insects*, *Reports* cited, 1:172, 239; 5:246; 7:279, 280; 8:140; 10:454; 11:147, 148, 249.
ornata, *Strachia*, see *S. festiva*.
Tettix, 2:197.
Ornithomyia avicularia, 1:299.
Ornix acerifoliella, see *Incurvaria*.
crataegifoliella, 11:267.
geminatella (syn. *Lithocollet's*, *Ornix prunivorella*), 1:330; 11:267.
prunivorella, see *O. geminatella*.
Orphulella pelidna (syn. *Stenobrothrus maculipennis*, *S. propinquans*), 2:196.
speciosa (syn. *Stenobrothrus aequalis*, *S. bilineatus*), 2:196.
 Orris root, *Sitodrepa panicea* in, 4:92.
Orthaltica copalina, 5:271; 14:363³.
Orthesia cataphracta (syn. *Dorthesia*) 1:286.
Orthodes crenulata (syn. *O. infirma*), 1:340.
infirma, see *O. crenulata*.
Orthofidonia vestaliata (syn. *Corycia*), 1:329; 11:266.
 Orthoptera, classification, 1:79; 4:167, 190; 8:302; 9:466; contributions of, 4:208; 5:326; 6:189; 8:300; 9:464; 10:512, 519; 11:288; 12:363; 13:375; *Gordius* a parasite of, 4:126; number of species, 4:165, 181; on apple tree, list, 1:332; 11:271; on hemlock, 4:21, 25; oviposition of, 1:74; reference, 1:17; 10:360; sense organs of, 1:69; species treated of, 2:187-98; 4:158-62; 6:149-53; 9:330-34; 10:439-45; studies in, 4:10.
Orthosia bicolorago, 10:482.
 var. *ferruginoides* (syn. *O. ferruginoides*), 8:291; 14:315⁵.
Orthosia ferruginoides, see *O. bicolorago* var.
helva, 1:340.
instabilis, see *Taeniocampa alia*.
ralla, 8:291; 14:315⁵.
Orthosoma brunneum (syn. *O. cylindricum*, *O. pennsylvanica*, *O. sulcatum*, *O. unicolor*), 4:20, 22, 23; 11:268.
cylindricum, see *O. brunneum*.
pennsylvanica, see *O. brunneum*.
sulcatum, see *O. brunneum*.
unicolor, see *O. brunneum*.
ortonii, *Agrotis*, see *Peridroma saucia*.
oryzae, *Calandra*, 7:362, 383; 9:308; 10:511; 13:374³; 14:365⁹.
 Osage orange, insects injurious to;
Aspidiotus perniciosus, 11:224.
Coccus hesperidum, 7:370.
Pulvinaria innumerabilis, 1:301; 6:143; 11:281; 14:390⁵.
Thyridopteryx ephemeriformis, 1:84.
 Osborn, Herbert, cited, 1:99; 2:126, 180; 8:152; 10:433, 453; 11:146, 152, 247, 249; 12:193, 273, 335; 13:335⁵ 344⁴, 352⁵, 353³; *Partial catalogue of the animals of Iowa* cited, 13:335⁵ 344⁴.
 Osborn, Herbert and Gossard, H. H., cited, 11:146, 152.
 Osborn, Herbert and Mally, C. W., cited, 11:242, 246.
 Osborn, Herbert and Sirrine, F. A., cited, 11:147, 152.
 Osborn, Herbert and Underwood, L. M., cited, 10:453.
 Osborne, A. O., insects from, 5:326.
 Osburn, W., cited, 11:181.
osceola, *Pamphila*, 7:374; 14:306⁷, 321⁴.
 Oscinidae, 1:221; 3:96, 148; 4:67, 68, 78; 7:234, 377; 9:313.
Oscinis coxendix, 1:225.
crassifemoris, 1:225.
frit, 1:225.
glabra, 1:225.
granarius, 1:225.
pumilionis (syn. *Chlorops*), 1:225, 226.
taeniopus, 1:225.
tibialis, see *Chloropisca*.
trifolii, see *Agromyza diminuta*.
vastator, of Europe, 1:224.
Osmoderma eremicola, 1:330; 11:268.
scabra, 1:330; 11:268, 284; 12:361; 13:373⁵.
 Osten Sacken, C. R., cited, 1:211; 2:216; 7:228; 10:388, 405, 478; 12:229; quoted, 11:164; referred to,

- 11:163; 12:321; *Catalogue of the Diptera of North America*, cited, 1: 173, 181, 184, 194, 199, 201, 202, 211, 216, 221; 2: 116; 4:63; 7:228; 9:309; 10:388, 405; 12:229; *Monograph of the Diptera of North America*, cited, 4:63; 11:248; *Western Diptera* (Bulletin United States geological and geographical survey), cited, 1:211; 7:228.
- ostreaeformis, *Aspidiotus*, 11:271.
- Diaspis, erroneous reference, of *D. pyri*.
- Oswego daily times* cited, 4:198; 8: 141, 283; 14:349², 371³, 371⁴.
- Oswego semi-weekly times* cited, 8: 286; 14:372⁵.
- Oswego times* quoted, 12:197.
- Otiocerus abbotii, 9:386.
- coquebertii, 1:298; 9:386.
- degeerii, 9:386.
- kirbyii, 9:386.
- wolfii, 9:386.
- Otiiorhynchidae, 2:142; 10:416-19; 11:269.
- Otiiorhynchus ligneus, *see* *O. ovatus*.
- ovatus (syn. *O. ligneus*, Curculio), attacking cabbage, 10: 418-19; attacking strawberries, 7:360; 10:418; beneath carpets, 3:141; bibliography, 10:416-17; in dwellings, 6:107, 118; 9:297; 10:416-18; reference, 2:52; 3:141; 4:141; 6: 189; 7:331; 9:422; 463, 466; 10:495, 511; 12:352; 14:365³, 380⁹, 393⁵.
- picipes, *see* *O. singularis*.
- singularis (syn. *O. picipes*), 2: 52; 10:418; 11:269.
- sulcatus, 2:51, 52; 10:418; 11: 269; 13:374³.
- tenebricosus, 2:52.
- Ottawa field naturalists club, *Transactions* cited, 5:216.
- Ottawa naturalist cited, 13:335⁴.
- Otterson, C. A., insects from, 13: 372⁵.
- Otterson, J. A., insects from, 13: 371², 372³, 373¹, 374⁴.
- Otus cnotus, *see* *Ampelophaga myron*.
- myron, *see* *Ampelophaga*.
- ou, *Plusia*, 2:97.
- ovata, *Chalcis* (*C. fulvipes* in error), 1:86; 11:132.
- Dibolia, 10:416.
- ovatus, Curculio, *see* *Otiiorhynchus*.
- Otiiorhynchus, *see* *Otiiorhynchus ovatus*.
- ovinus, *Melophagus*, 1:62, 229.
- ovis, *Cephalomyia*, *see* *Oestrus*.
- Oestrus (syn. *Cephalomyia*), 1: 299.
- Owen, Richard, cited, 2:102.
- Owl [Glens Falls, N. Y.], cited, 4: 194, 196; 14:347⁵, 348².
- Owl beetle, 4:141; 5:317; 9:447, 458; 14:311⁴, 339⁹.
- Owlet moths, 1:113.
- Ox eye daisy, Thripidae on, 11:247.
- Ox gad fly, 4:199; 6:115.
- Ox warble fly, 4:199; 6:111-15; 14: 349³, 367¹.
- Oxalis, white, *Aleyrodes* species on, 7:383.
- oxycoccana, Teras, 11:266.
- oxylus, *Limneria*, 12:211.
- Oxyptilus periscelidactylus (syn. *Pterophorus*), bibliography, 12: 218; description, 12:219-21; distribution, 12:222; family characteristics, 12:219; figures, 12, plate 4, fig. 3, 4, 5; plate 5, fig. 8, 9; life history, 12:221-22; parasites, 12:222; ravages, 12:219; reference, 8:297; 10:516; 13:372⁵; 14: 371⁷, 399⁴; remedies, 12:222.
- Oxytelus rugosus, 1:189; 3:134, 142.
- sculpturatus, 1:189.
- Pachylobius picivorus, 3:144; 14: 344².
- Pachypsylla celtidis-mamma, 3:141.
- Pachyrhynchus schönherri, *see* *Ithyercus noveboracensis*.
- Pacific rural press cited, 5:220.
- pacifica, *Taeniocampa*, 11:265.
- Packard, A. S., cited, 1:81, 87, 211; 2:68, 203, 208; 4:20, 51, 93, 128, 159; 5:164, 184, 192, 207; 7:225; 8: 129, 133, 160; 10:404, 477; 11:240, 248, 251; 12:183, 237, 243; 13:343¹; quoted, 12:240-41, 245, 246, 247-48, 311; 13:346³-47²; referred to, 4: 192; 12:241, 244, 267, 291; 13:346¹; *Entomology for beginners* cited, 4: 115, 120; 5:164; 7:255; 8:155, 160; 9:317; 10:377, 404, 477; 11:109, 240, 248; 12:218, 230; *First memoir on the Bombycine moths* cited, 13: 343³; *Guide to the study of insects* cited, 1:81, 110, 157, 172, 194, 199, 211, 227, 233, 239, 271; 2:57, 97, 111, 116, 132, 149, 203; 4:35, 80, 107, 114, 128, 159; 5:184; 7:255; 8:155, 160; 9:317; 10:377, 388, 404, 453, 477; 11:109, 146, 174, 240, 248; 12: 218, 230, 237, 264, 290, 301, 344; 13:343¹, 351⁷; *Injurious insects new and little known* cited, 1:253; 7: 255; *Insects injurious to forest and*

- shade trees (Bull. no. 7, U. S. ent. comm., 1881), cited, 1:81, 87; 2:180; 4:20, 93; 5:184, 192, 216, 234; 8:154; 11:160, 181; 12:237, 243, 247; 14:331⁴; *Insects injurious to forest and shade trees* (5th rep't. U. S. ent. comm. 1886-90), cited, 8:133, 152, 154; 11:157, 181, 197; 12:237, 243, 265, 267; 13:338⁶, 343¹; *Monograph of the Geometrid moths or Phalaenidae* cited, 1:18; 2:97; 8:129; *Report on the injurious and beneficial insects of Massachusetts* cited, 1:157; 2:149, 168; 7:255; 12:267; *Report on the Rocky Mountain Locust and other insects* (in 9th ann. rep't. of U. S. G. G. Surv. of the terr. for 1875), cited, 1:110, 172, 191, 194, 239, 253, 264; 2:57, 89, 149; 4:28; 5:246; 7:255; 11:126; 13:351⁷; *Thysanura of Essex co., Mass.* cited, 11:251; *Zoology for high schools and colleges* cited, 11:477.
- packardata, *Cidaria*, see *Eustroma populatum*.
- packardi, *Grapholitha*, 1:57.
- Packardia elegans, 8:290.
- pacuvius, *Nisoniades*, see ?*Thanaos*.
Thanaos (syn. *Nisoniades*), 7:375; 14:307², 321⁴.
- Paine, J. A., insects from, 7:383; 10:515.
- Paleacrita vernata (syn. *Anisopteryx*), coal oil refuse for, 2:27; depredating on apple, 1:329; 2:7-9; 3:84; 5:258-59; 9:296; 12:311, 312, 350; jarring for, 1:57; london purple for, 2:44; paris green for, 1:33; 12:311, 350; reference, 1:72; 4:139, 140; 9:422; 11:121, 266; 12:356, 360; 13:365³, 370³; 14:331⁵, 331⁹, 338², 340⁵, 343⁶, 349⁷, 363¹, 392¹, 395², 396⁵; remedies, 2:8, 9, 224, 225; 3:93-96, 142; 5:242, 259, 313-14, 318-19; 12:311, 350; spread, 1:11; 4:185; swine for, 1:61.
- Palingenia natata, see *Ephemera simulans*.
- Palisot de Beauvois, A. M. F. J., *Insectes recueillis en Afrique et en Amerique* cited, 2:187; 7:246; 13:342³, 351⁵.
- pallens, *Leucania*, 1:340; 4:206.
- palliatus, *Desmocerus*, 1:297; 5:325; 6:188; 9:462.
- pallida, *Bryobia*, see *B. pratensis*.
- pallidicornis, *Torymus*, 11:164.
- pallipes, *Bruchus*, see *B. obtectus*.
- pallidus, *Idiocerus*, 9:399.
- pallipennis, *Carpophilus*, 9:462.
- pallipes, *Mycetobia*, 10:392.
- Polistes (syn. *P. fuscatus*), 1:330; 3:135; 6:109; 11:264, 284.
- Scenopinus, see *S. fenestralis*.
- Palm, insects on;
Aramigus fulleri, 2:143.
Scarabaeid, 8:298.
- Palmer, W. J., insects from, 5:325.
- Palmer worm, 1:300, 329; 11:267.
- Palmyra courier*, 14:343⁹.
- Palthis angulalis, 11:266.
- Pamphila, 2:214; 5:285.
ethlius, see *Calpodes*.
leonardus, see *Anthomaster*.
metacomet, see *Euphyes*.
osceola, 7:374; 14:306⁷, 321⁴.
peckius, see *Polites*.
- pampinaria, *Boarmia*, see *Cleora*.
Cleora (syn. *Boarmia*), 11:266.
- pampinatrix, *Choerocampa*, see *Ampelophaga myron*.
- Sphinx, see *Ampelophaga myron*.
- Pandemis limitata, 10:483.
- pandorus, *Philampelus* (syn. *P. satellitia*), 5:175, 177; 10:481, 508; 13:371⁶; 14:309⁸.
- panicea, *Sitodrepa* (syn. *Anobium paniceum*, *A. obesum*, *Dermestes paniceus*), 4:88-93, 197, 198, 207; 7:311; 9:440; 13:373⁴; 14:348⁷, 349¹, 357⁴, 374⁴.
- paniceum, *Anobium*, see *Sitodrepa panicea*.
- paniceus, *Dermestes*, see *Sitodrepa panicea*.
- Paniscus geminatus, 8:238.
- Panorpa, 2:213; 10:463, 464, 467, 472, 473, 476, 477, 478.
canadensis, 10:478.
communis, 10:465, 466, 477.
germanica, 10:465.
hyemalis, see *Boreus*.
maculosa, 10:464, 465.
nematogaster, 10:465.
rufescens, 10:464-73, 478-80; 12:352; 14:393⁴.
subfurcata, 10:478.
- Panorpidae, 2:236.
- Pansy, insects, etc., injurious to;
 cut worms, 8:236.
- Polydesmus complanatus 12:301.
- wild, fertilized by Thrips, 11:248, 249.
- Panthea furcilla (syn. *Platycerura*), 9:450, 455; 14:313³.
- pantherinus, *Dendroleon*, 11:239.
Myrmeleon, 7:320.
- Panton, J. H., cited, 12:194; quoted, 11:119.

- Paonias excaecatus* (syn. *Smerinthus*), 1:327; 10:508; 11:264; 14:309^o.
- Papilio* cited, 1:81, 87; 2:57, 89; 5:193, 213, 317; 6:179, 180; 7:225; 12:214; 14:306^o, 307¹, 327^s, 327^o, 339⁷.
- Papilio asterias*, see *P. polyxenes*.
cresphontes, see *Heraclides*.
philenor, see *Laertias*.
polyxenes (syn. *P. asterias*), 3:140; 4:136; 10:507, 515; 12:307; 14:309^o.
rutulus, 8:296.
troilus, see *Euphroeades*.
turnus, see *Jasoniades glaucus*.
- Papilios*, scarcity of, 12:307.
- Parajulus impressus* (syn. *Julus*), 3:132.
- parallela*, *Aphrophora* (syn. *Lepyronia*), 1:285; 4:121; 5:245; 9:393, 410.
Lepyronia, see *Aphrophora*.
Parorgyia, see *Olene achatina*.
- Parallelia bistriaris*, 10:482.
- parallelum*, *Elaphidion*, see *E. villosum*.
- Paramesus vitellinus* (syn. *Acocephalus*), 9:397, 410.
- Parandra brunnea*, 11:268.
- paraplecticus*, *Lixus*, of Europe, 1:260.
- Parasa chloris* (syn. *P. fraterna*), 1:328; 5:186, 190; 9:443; 11:264; 14:375^o.
fraterna, see *P. chloris*.
- Parasitic insects, introduction of, 7:340-41.
- Parasitic mite, 4:200; 5:290.
- pardalis*, *Neuronia*, 12:298-99; 14:399².
- Pardee, A. jr, insects from, 10:509.
- Parharmonia pini* (syn. *Harmonia*), 4:19; 13:370^o, 371⁷; 14:398⁷.
- Paria aterrima*, see *Typophorus canellus*.
- Parker, Jesse, insects from, 10:517, 519.
- Parker, Sarah, insects from, 7:384.
- Parlatoria species* ?, 8:279; 14:369⁷.
- Parmula cocciformis*, see *Microdon globosus*.
- Parorgyia parallela*, see *Olene achatina*.
- Parsley, insects injurious to;
Papilio polyxenes (syn. *P. asterias*), 10:515.
Thrips tabaci, 11:244.
- Parsnip, insects injurious to;
Aphids, 3:84, 123; 4:204; 14:346², 352^s.
Poecillocapsus lineatus, 1:277.
- Parsnip, insects injurious to;
Siphocoryne pastinacae, 3:123, 151.
Trypetidae, 5:282.
- Parsnip plant louse, European, 3:123.
- parta*, *Catocala*, 9:456; 14:313⁷.
- parthenice*, *Arctia*, see *Euprepia*.
Euprepia (syn. *Arctia*), 10:481.
- Parthenium integrifolium*, *Phymata wolffii* (syn. *P. erosa*) on, 3:108.
- Parthenos nubilis*, see *Euparthenos*.
- parthenos*, *Platarctia*, see *P. hyperborea*.
- Parus atricapillus*, see *Chickadee*.
- parvulus*, *Sphenophorus*, 1:261.
- pascuellus*, *Crambus*, 1:150.
- Pasimachus elongatus*, 12:209.
- passer*, *Hadena*, see *Luperina*.
Luperina (syn. *Hadena*), 10:482.
- Passion vine, insects injurious to;
Epicauta pennsylvanica, 2:227.
vittata, 1:40.
- Pastinaca sativa*, see *Parsnip*.
- pastinacae*, *Siphocoryne*, 3:123, 151.
- Patten, G. M., insects from, 12:362.
- Patten, Mrs M. M., insects from, 8:300.
- pauciseta*, *Sciara*, 12:224, 225, 361.
- Pavek, George, not harmed by *Cicada*, 12:287.
- Payne, W. H., insects from, 3:141; 11:162.
- Pea, insects injurious to;
Bruchus chinensis (syn. *B. scutellaris*), 5:147; 6:127; 7:282; 8:295; 14:317⁷.
pisorum (syn. *B. pisi*), 7:261, 263, 280, 9:439.
rufimanus, 7:281.
- Chelymorpha argus*, 6:188.
- cut worms, 8:236.
- Heliothis armiger*, 1:120.
- Laspeyresia nigricana*, 10:516.
- Leucania unipuncta*, 12:206, 309.
- Lygus pratensis*, 13:352^s.
- Macrodaetylus subspinosus*, 1:229, 231.
- Mamestra picta*, 2:2; 10:492; 14:379^o.
- Melittia satyriniformis* (syn. *M. cucurbitae*), 4:138.
- pea weevil, 5:300; 7:264, 266, 267.
- Phytomyza nigricornis*, 4:79.
- sweet, insects injurious to;
Mamestra picta, 2:2; 5:209.
Poecillocapsus lineatus, 1:277.
- Pea bug, 12:355.
- Pea moth, 13:372^s.
- Pea weevil, description, 6:127-28; general account, 6:127-29; life his-

- tory, 6:128-29; literature, 6:128; reference, 5:300; 7:263, 264, 266, 267, 269; 8:295; 13:364⁷; 14:317⁷, 353⁴, 367⁹, 373³, 394⁸, 396⁴; remedies, 1:49; 6:129; 9:439.
- Peabody academy of science, *Report* cited, 2:203, 208; 5:201; 7:225; 8:129; 11:251.
- Peach, insects, etc., injurious to;
- Acholla multispinosa*, 10:517.
 - Adalia bipunctata*, 3:137.
 - Anarsia lineatella*, 1:151-56; 5:173; 7:369; 14:316⁹, 318⁴.
 - Aphis prunicola* (syn. *A. persicae-niger*, *Myzus persicae*), 5:315; 9:369; 11:279; 14:338⁹.
 - Aspidiotus perniciosus*, 11:206, 207, 223, 287.
 - Bryobia pratensis*, 11:288.
 - Carpocapsa pomonella*, 9:340; 14:371¹.
 - Chauliognathus pennsylvanicus*, 4:87.
 - Chrysobothris femorata*, 5:155.
 - Cicada septendecim*, 2:176; 12:272, 287.
 - Clisiocampa americana*, 6:165.
 - Conotrachelus nenuphar*, 7:374.
 - Diabrotica 12-punctata*, 7:315.
 - Drosophila ampelophila*, 1:216.
 - Elaphidion villosum*, 9:358-59.
 - Euphoria inda*, 1:235.
 - melancholica*, 3:141.
 - Hydroecia nitela* (syn. *Gortyna*) 1:112; 8:112, 191, 192.
 - Icerya purchasi*, 4:187.
 - Largus succinctus*, 2:165; 6:183; 14:329⁹.
 - Lecanium nigrofasciatum* (*L. persicae* in error), 7:379, 380; 14:323⁴, 323⁷.
 - Leptocoris trivittatus*, 10:433.
 - Lygus invitus*, 8:125.
 - pratensis*, 8:125; 13:354⁷-55⁴.
 - Macroductylus subspinosus*, 1:229; 4:199; 6:166.
 - Myzus cerasi*, 2:19; 5:256.
 - Oecanthus niveus*, 4:147.
 - Otiorynchus tenebricosus*, 2:52.
 - Pentatoma juniperina*, 10:430, 490; 14:379³.
 - Peridroma saucia* (syn. *Agrotis*), 5:205.
 - Phlegethontius celeus* (syn. *Sphinx 5-maculatus*), 3:141.
 - Phloeotribus liminaris*, 3:141; 4:144, 204; 5:319, 325; 7:352; 8:299; 9:365-68.
 - Phytoptus persicae*, 10:459-60.
 - Peach, insects, etc., injurious to;
 - Pristiphora species*, 2:5.
 - Sanninodea exitiosa* (syn. *Aegeria*, and *Sannina*), 2:24, 60; 5:299; 6:170; 8:181-86; 9:367.
 - Scolytus rugulosus*, 3:152; 4:103, 186, 208; 12:362.
 - Stereum complicatum*, 2:7.
 - Telephorus bilineatus*, 8:174.
 - White grubs, 9:354.
 - Xyleborus dispar*, 8:299.
 - Xylina antennata* (syn. *X. cinerea*), 11:279.
 - Peach and cherry borers, 5:319.
 - Peach aphid, black, 2:19-23; 11:279; 14:389⁷.
 - Peach bark borer (*Phloeotribus*), 7:351-52, 361; 9:365-67; 14:365⁹, 383⁸.
 - Peach bark *Scolytus*, *see* Peach bark borer.
 - Peach leaf curl, 4:185.
 - Peach root aphid (*Aphis prunicola*), 5:315; 14:338⁹.
 - Peach tree borer, general account (abstract), 6:170-71; oviposition, 5:299; reference, 1:259, 308, 316; 2:60; 4:107; 5:300; 9:367; 10:497; 14:320⁴, 335⁹, 353³, 371⁵; remedies, 1:47; 58, 59, 64; 2:5-6; 7:374; 8:181-86, 284.
 - Peach tree *Phytoptus*, 10:459-60.
 - Peach twig moth, 1:151-56; 6:173; 7:369; 11:267.
 - Peaches, bees and wasps injuring 13:369⁹.
 - Peanut, hog, *Odontota dorsalis* feeding on, 12:266.
 - Pear, insects injurious to;
 - Agrilus sinuatus*, 11:286.
 - Amphicerus bicaudatus*, 2:126; 14:311².
 - Aspidiotus nerii*, 5:299.
 - perniciosus*, 10:505; 11:207, 224; 12:363; 13:374⁷; 14:386⁹.
 - Cacoecia argyrospila*, 5:324; 7:356.
 - rosaceana*, 6:187; 7:355.
 - Carneades scandens* (syn. *Agrotis*), 1:58.
 - Carpocapsa pomonella*, 12:360; 14:371¹.
 - Chionaspis furfurus*, 8:293, 299; 11:203; 14:316⁹.
 - Chrysobothris femorata*, 6:155.
 - Cicada septendecim*, 2:176.
 - Coleophora species*, 5:324; 7:347, 361; 14:365⁵.
 - Conotrachelus crataegi*, 10:420.
 - nenuphar*, 5:325.

- Pear, insects injurious to (*cont'd*)
Diabrotica vittata, 4:103.
Diplosis pyrivora, 7:335; 8:124, 140, 151, 288, 297; 9:318; 10:386-87; 11:285; 14:371², 371³, 371⁷.
Drosophila ampelophila, 1:217.
Dynastes tityus, 9:342, 444, 463; 14:376⁴.
Eriocampa adumbrata, 5:323.
Eriocampoides limacina (syn. *Eriocampa cerasi*), 9:335, 440; 14:375².
Euphoria inda, 9:443, 463; 10:504; 12:362; 14:375⁹, 386⁴.
Halisidota caryae, 7:355.
Icerya purchasi, 4:187.
Lecanium pyri, 8:299.
Lygus invitus, 7:348; 8:125, 299.
pratensis, 1:280; 5:275, 326; 8:125; 13:351⁹, 352³, 353², 354⁴.
Macroductylus subspinosus, 1:230; 9:420.
Mytilaspis pomorum (syn. *Aspidiotus conchiformis*), 4:117; 8:293; 11:202; 14:316⁶.
Neoclytus erythrocephalus, 6:188; 12:246.
Notolophus leucostigma (syn. *Orgyia*), 2:77.
Phobetron pithecium, 5:187, 192; 11:285.
Phytoptus pyri, 9:442; 10:453-59.
Polycaon confertus, 2:132.
Prionus laticollis, 4:22.
Pristiphora species, 2:5.
Psylla pyri, 9:321, 322, 323.
pyricola, 8:219, 285; 9:293, 317-29, 429, 430, 445; 10:489, 510; 14:375⁴.
Sciara pyri, 5:265.
Thyridopteryx ephemeriformis, 1:84.
Tmetocera ocellana, 7:306.
Tremex columba, 4:38.
Xyleborus dispar, 6:188; 7:348; 9:366, 419; 11:286; 14:318⁶.
Xyleborus species, 12:246.
Zeuzera pyrina, 9:426.
- Pear blight, 4:184.
Pear blight beetle, 1:310, 331; 4:200, 203; 5:318; 7:348-51, 361, 374; 9:419; 11:270; 14:340⁴, 349⁷, 351⁵, 365⁵.
Pear leaf blister mite, 7:365; 9:377, 442; 10:453-59, 501; 12:352; 14:367⁴, 375⁷, 384⁸, 393³.
Pear midge, 7:335; 8:124, 140-51, 288; 9:318, 324; 10:386-87, 456, 489, 497, 510; 11:119, 169, 170, 227, 260, 278, 285; 12:351, 361; 14:371², 371⁵, 371⁷, 373⁶, 378⁸, 382², 389⁸, 393¹.
Pear scab, 4:185.
Pear tree aphid, 10:512.
Pear tree blister beetle, 1:331; 11:269.
Pear tree oyster scale, 11:271.
Pear tree borer, flat headed, 11:225.
Pear tree *Psylla*, bibliography, 9:317-18; characteristics of its family, 9:319; description by Harris, 9:321-22; detailed account, 9:317-29; distribution, 9:325, 429, 445; 10:425-26; earliest notice of, 9:319-21; general account (abstract), 8:285; 9:441; injuries by, 8:124; 9:325-26; life history, 9:326-28; multiplication in Hudson river valley, 9:322-24; on apple trees, 1:331; ravages, 8:219-20; reference, 8:299; 9:293, 434, 466; 10:498, 518; 11:271, 273; 12:352; 14:370⁷, 372², 375⁴, 376³, 383⁵, 387⁴, 393⁸; referred to *P. pyricola*, 9:322; remedies, 9:329, 430.
Pear tree slug, 1:60; 9:335-36, 440; 10:498; 12:359; 14:375², 383⁷.
Peas, split, insects injurious to;
Plodia interpunctella (syn. *Ephestia*), 12:360.
Silvanus surinamensis, 12:361.
Pease, Ira, insects from, 9:461.
Pebrine, 4:177.
Pecan nut, *Aspidiotus perniciosus* on, 11:224.
Peck, C. H., insects from, 3:140; 4:205; 6:187, 188, 189; 7:384; 8:298, 299; 9:461; 10:509, 512, 518; 11:285; 12:221, 312, 314, 359, 360, 361, 362, 363; 13:375³.
Peck, H. L., insects from, 4:207.
peckius, *Pamphila*, *see* *Polites*.
Polites (syn. *Pamphila*), 4:137.
pectinicornis, *Chauliodes* (syn. *Hemerobius Semblis*), 8:107, 155-59, 300; 10:497; 14:382³.
Cladius, 10:499; 14:384⁴.
Hemerobius, *see* *Chauliodes*.
Semblis, *see* *Chauliodes*.
pectoralis, *Hylotoma*, 12:359.
pecuarum, *Simulium*, *see* *S. invenustum*.
pedicularius, *Selenophorus*, 12:209.
Pediculidae, 1:48; 2:199.
Pediopsis trimaculatus, 9:400.
viridis, 9:399.
pedipalalis, *Pityolita*, 10:482.
Pegomyia, 1:181, 211.
betae (syn. *Anthomyia*, *A. sulcans*, *Chortophila*), 1:204, 206, 207.

- Pegomyia betarum* (syn. *Chorotophila*), 1:208; 3:85; 5:322; 14:308¹, 341⁸.
vicina, 1:198, 209-11; 3:85; 14:308².
- Pelecinus polyturator*, 10:515, 519.
- pelidna*, *Orphulella* (syn. *Stenobothrus maculipennis*, *S. propinquans*), 2:196.
- Pelidnota punctata*, 1:307; 5:229, 310, 312, 325; 11:268, 286; 12:362; 13:373⁵; 14:358⁷.
- pellio*, *Attagenus*, 2:47, 138.
- pellionella*, *Tinea*, 1:64; 2:44; 4:140, 174; 6:187; 11:276; 14:350³, 357⁹, 388⁵.
- Pellucid locust*, 11:271.
- pellucida*, *Anisota*, see *A. wirginiensis*.
Camula, 1:332; 10:443; 11:271.
- Pelopoeus caementarius*, 4:205; 11:234; 12:359.
caeruleus, see *Chalybion caeruleum*.
- Pempelia grossulariae*, see *Zophodia hammondi*, see *Canarsia*.
- Pemphiginae*, 2:181; 3:125; 4:179; 9:413.
- Pemphigus*, 12:290; sensitive organs in, 1:69.
acerifolii, 10:494; 14:380⁵.
imbricator (syn. *Eriosoma*, *Schizoneura*), 3:123-26, 142, 152, 153; 9:408, 411, 412; 12:355, 363; 14:346⁹, 352⁴, 394⁶.
populi-transversus, 13:361⁹-62²; 14:400³.
pyri, see *Schizoneura lanigera*.
rhois (syn. *Brysocrypta*, *Melaphis*), bibliography, 12:290; distribution, 12:292; food plants, 12:291-92; gall and immature aphids described, 12:290; imago described, 12:291; life history, 12:291; reference, 3:142; 10:503; 12:290; 14:385⁴, 399⁷.
tessellata (syn. *Eriosoma*, *Schizoneura*), 2:181; 3:125; 4:208; 8:109, 170; 9:346-47, 408, 411, 413, 463; 10:498; 14:383⁴.
ulmicola, see *Colopha*.
vitifoliae, see *Phylloxera*.
- Pemphredon concolor*, 8:163.
lugubris, of Europe, 8:163.
marginatus, 8:163.
unicolor, of Europe, 8:163.
- Penhallow*, D. P., cited, 4:103; insects from, 4:206; 8:298; 11:286.
- penicillatus*, *Phalacrus*, 6:170.
- Pennsylvania farm journal* cited, 6:141.
- Pennsylvania state board of agriculture*, *Report* cited, 11:127, 134.
- pennsylvanica*, *Disonycha*, 11:269.
- Epicauta* (syn. *Meloe*, *Cantharis atrata*, *Lytta atrata*), 1:305; 2:227; 6:135-36, 170; 9:443, 463; 10:496; 11:281, 284, 286; 13:374²; 14:332⁷, 361⁷, 368², 376², 381⁴, 390⁴.
Formica, see *Camponotus herculeaneus* var. *pennsylvanicus*.
Meloe, see *Epicauta*.
Photuris, 8:298; 11:284; 13:373³.
- pennsylvanicum*, *Orthosoma*, see *O. brunneum*.
- pennsylvanicus*, *Alobates* (syn. *Nyctobates*), 4:20, 23; 6:189.
Bombus, 9:461; 11:284.
Chauliognathus (syn. *C. americanus*), 4:84, 86, 87; 5:316; 9:344, 463; 10:498; 12:362; 14:339³, 383⁹.
Harpalus, 12:209.
Nyctobates, see *Alobates*.
- Pentagonia vittigera*, 5:286.
- Pentatoma bidens*, see ? *Picromerus*.
carnifex, see *Cosmopepla*.
juniperina (syn. *Cimex*), 10:430-32, 490, 512; 12:352; 14:379³, 393⁸.
ligata, see *Lioderma*.
- Pentatomidae*, 6:137; 7:238; 9:315; 10:430-32.
- Penthimia americana*, 9:397.
hemorrhoea, 9:397.
sanguinicollis, 9:397.
- Penthina chionosema*, 10:483; 11:266.
contrariana, see *P. nimbatana*.
nimbatana (syn. *Antithesia*, *Penthina contrariana*), 1:57; 2:228, 230; 4:206; 5:213-15; 6:139; 10:483; 14:332⁹, 362⁷.
- Pentilia misella*, 2:186.
- Peony*, insects on;
carpet beetles, 11:173.
Ellychnia corrusca, 9:463.
- Pepper*, *Heliothis armiger* on, 1:120.
capsicum, army worm feeding on, 12:206.
cayenne, *Sitodrepa panicea* in, 4:91.
- Pepper vine*, *Nectarophora solanifolia* (syn. *Siphonophora*) on, 3:122.
- Pepperidge*, *Antispila nyssaefoliella* on, 11:157.
- Perenoptilota fluviata* (syn. *Camptogramma*, *Plemyria*), 9:456; 10:483.
- Pergande*, Theodore, cited, 11:242, 244, 249; quoted, 12:182; referred to, 12:181; 13:363⁷.

- Peridermium cerebrum*, *Brucophagus* species reared from, 12:359.
Peridroma saucia (syn. *Noctua*, *Agrotis*, *A. inermis*, *A. ortonii*), 1:8, 328; 5:200-6; 8:234, 235; 11:121, 265; 14:362⁷.
Perilampus violaceus, 1:146.
Perillus circumcinctus, 2:146.
Periplaneta, 4:180.
 australasiae, 12:363.
 orientalis (syn. *Stylopyga*), 1:62; 7:325; 12:363; 13:375¹.
periscelidactylus, *Oxyptilus*, see *Oxyptilus periscelidactylus*.
 Pterophorus, see *Oxyptilus*.
 Perkins, G. H., cited, 12:194, 218, 292; referred to, 12:294, 298; *Insects injurious to the American elm* cited, 12:292.
 Perkins, Mrs. G. H., insects from, 13:371⁸, 372⁷, 374³.
Perla nivicola, see *Capnia pygmaea*.
perlellus, *Crambus*, 1:150.
permundana, *Eccopsis*, see *Exartema*.
 Exartema (syn. *Eccopsis*), 1:329; 10:483; 11:266.
perniciosus, *Aspidiotus*, 1:332; 10:505, 518; 11:206-33, 275, 277, 287; 12:316, 356, 357, 363; 13:368⁸, 374⁷; 14:386⁹, 388⁸-89¹, 395², 397⁹. See also San José scale.
Pernicious scale, 1:332; 10:518.
Peronospora viticola, see Downy mildew.
Perophora melsheimerii, see *Cincinnati*.
perpolita, *Agrotis*, see *Carneades*.
 Carneades (syn. *Agrotis*), 7:375; 14:321⁹.
perpulchra, *Haltichella*, 12:210.
persicae, *Lecanium*, erroneous reference of *L. nigrofasciatum*.
 Myzus, see *Aphis prunicola*.
 Phytoptus, 10:459-60.
persicae-niger, *Aphis*, see *A. prunicola*.
persicana, *Ptycholoma*, 10:483.
persicus, *Argas*, 6:158.
Persimmon, insects injurious to;
 Aspidiotus perniciosus, 11:224.
 Oberea bimaculata, 5:233.
 Phobetrus pithecius, 5:187.
persius, *Nisoniades*, see *Thanaos*.
 Thanaos (syn. *Nisoniades*), 1:334, 335, 336; 4:137; 7:375; 9:449; 14:321¹, 350², 357⁹.
personatus, *Opsicoetus* (syn. *Reduvius*), 4:112, 133; 5:316; 13:374⁵; 14:339².
 Reduvius, see *Opsicoetus*.
perspicillata, *Oberea*, see *O. bimaculata*.
perspicua, *Datana*, 7:381.
persuasoria, *Rhyssa*, 8:108, 165, 166.
perturbans, *Culex*, 12:321.
petreius, *Pyrgus*, see *P. caespitalis*.
petronius, *Nisoniades*, see *Thanaos*.
 Thanaos (syn. *Nisoniades*), 1:334; 6:180; 14:307¹, 327⁷.
Petrophora diversilineata, see *Eustroma diversilineatum*.
 Pettit, Johnson, cited, 8:155; 10:478; 11:240.
pettittana, *Cenopsis*, 10:483.
petulca, *Xylina*, see *X. signosa*.
Petunia, *Phlegethontius celeus* (syn. *Macrosila quinquemaculata*) on, 1:119.
Pezomachus minimus, 12:210.
Pezotettix chenopodii, see *Aeoloplus*.
Phacellura hyalinata, see *Margaronia*.
 hyalinitalis, see *Margaronia hyalinata*.
 nitidalis, see *Margaronia*.
phaëton, *Euphydryas* (syn. *Melittaea*), 7:219; 9:448; 14:311⁶.
 Melittaea, see *Euphydryas*.
Phakellura hyalinata, see *Margaronia*.
 nitidalis, see *Margaronia*.
Phalacrus penicillatus, 6:170.
 politus, 6:170; 14:361⁵.
Phalaena costalis, see *Pyralis*.
 edusa, see *Homoptera lunata* var.
 hyalinata, see *Margaronia*.
 imperatoria, see *Basilona imperialis*.
 lunata, see *Homoptera*.
 nitidalis, see *Margaronia*.
 oculatissima, see *Ecpantheria ocellaria*.
 scribonia, see *Ecpantheria ocellaria*.
Phalaenidae, 1:18, 340; 9:453, 456.
Phalaris canariensis, see Canary grass.
Phanaeus, 4:175.
Phanerotoma tibialis (syn. *Sigalphus*), 11:156.
pharaonis, *Formica*, see *Monomorium*.
 Monomorium (syn. *M. molestum*, *Formica*, *Myrmica molesta*, *Solenopsis molesta*), 1:62, 321; 10:366; 11:109-14; 12:356; 14:390⁵, 395⁵.
phaseoli, *Bruchus*, 7:263.
Phasgonophora sulcata (syn. *Smicra gigantea*), 1:86.

- Phelps, C. H., insects from, 4:205.
 Phengodes species, 8:298.
 Pheosia dictaea, *see* P. dimidiata.
 dimidiata (syn. P. dictaea, P. rimosa, Notodonta dictaea), 7:375; 8:296; 10:508; 14:310³, 321⁵.
 rimosa, *see* P. dimidiata.
 phicomone, Colias, *see* Eurymus philodice.
 Phigalia cinctaria, *see* Rhaphidodemas titea.
 philadelphiae, Odynerus, 7:229.
 Philaenus spumaria (syn. Cicada), 1:285; 5:245.
 Philampelus achemon, 5:175; 9:451; 10:481, 508; 14:309⁸, 312².
 pandorus (syn. P. satellitia), 5:175, 177; 10:481, 508; 13:371⁸; 14:309⁸.
 satellitia, *see* P. pandorus.
 philenor, Laertias (syn. Papilio), 6:187.
 Papilio, *see* Laertias.
 philetas, Pyrgus, 1:336.
 philodice, Colias, *see* Eurymus.
 Eurymus (syn. Colias, C. nastes, C. phicomone, C. santes), 1:301; 4:136; 5:285; 7:316; 10:507; 12:308; 14:309⁴.
 Phisterer, Frank, insects from, 4:207.
 Phlaeothrips, 11:247.
 frumentaria, 11:246.
 mali, 1:332; 11:248, 271.
 nigra, 11:249.
 Phlegethontius carolina (syn. Sphinx), 1:322; 8:242; 14:343³.
 celeus (syn. Protoparce, Sphinx, S. 5-maculatus, Macrosila 5-maculata), 1:56, 73, 119, 322; 3:141; 4:205; 5:179, 309; 6:187; 7:379; 8:242-44; 9:461; 10:507; 13:371⁷; 14:309⁸, 323⁶, 343⁵, 358⁵.
 cingulata (syn. Sphinx), 10:507; 14:309⁸.
 Phlepsius fulvidorsum (syn. Jassus), 9:402, 410.
 irroratus (syn. Jassus), 1:331; 9:402, 410; 11:270.
 strobi (syn. Bythoscopus), 9:398, 410.
 Phleum pratense, *see* Timothy.
 phloeoptes, Phytoptus, 10:460.
 Phloeotribus liminaris, general account, 9:365-68; reference, 3:141, 152; 4:208; 5:319; 8:299; 10:498; 11:270; 14:340⁸, 346⁴, 350², 351⁷, 365⁷, 383³; work on peach trees, 4:144-45, 204; 7:352, 361.
 Phlogophora, 1:71.
 Phlox, insects injurious to;
 cut worms, 2:231; 8:236.
 Poecilocapsus lineatus, 1:277.
 Phlyctaenia acutella (syn. Botis), 10:483.
 ferrugalis (syn. Botis), 10:483.
 Phobetron pitheciun (syn. Echnomidea, Limacodes), 1:328; 2:227; 4:206; 5:183-92, 306; 7:381; 9:443, 455-56, 461; 11:264, 285; 14:313³, 332⁷, 355⁷, 362⁶, 376².
 Phoebe feeding on army worm, 12:209.
 phoenicoptera, Oedipoda, *see* Hippiscus tuberculatus.
 pholus, Lycomorphus, 9:450.
 Phora, 10:404, 405.
 agarici, 10:399-406, 516; 12:229, 351; 14:308¹, 393³.
 albidihalteis, 12:228-29, 361.
 aletiae, 10:405.
 aterrima, 10:405.
 bovistae, 10:403.
 dauci, 10:405.
 flava, 10:403.
 incrassata, 10:405.
 lutea, 10:403.
 microcephala, 10:404.
 minuta, 10:403.
 nigra, 10:403.
 pumila, 10:403.
 rufipes, 10:405.
 setacea, 10:402.
 Phorbia, 1:180, 181, 184, 202.
 brassicae (syn. P. floccosa, Anthomyia, Chortophila floccosa, Musca floralis), 1:47, 171, 184-91, 192, 193, 207, 208, 296, 322; 2:28, 225; 5:158, 265, 319; 9:431; 10:486; 14:331⁷, 335⁸, 335⁹, 340⁷, 349⁹, 363², 377⁸.
 ceparum (syn. Anthomyia, Scatophaga), 1:8, 46, 169, 171, 172-81, 204, 296, 322; 2:28; 3:85; 4:13; 5:319; 10:486; 14:335⁸, 340⁷, 377⁷.
 cepetorum, 1:180.
 cilicrura, *see* P. fusciceps.
 floccosa, *see* P. brassicae.
 fusciceps (syn. Anthomyia angustifrons, A. radicum var. calopteni Riley, A. zaeae, Aricia, Chortophila angustifrons, C. cilicrura, Hylemyia deceptiva, Phorbia cilicrura), 1:171, 180, 181-84, 199-201, 202, 226; 4:179; 10:516; 14:335⁸.
 rubivora, *see* Raspberry cane maggot.
 Phorichaeta sequax (syn. Scopolia), 8:238.

- Phorid larva, 12:361.
 Phoridae, species treated of, 10:399-406; 12:228, 229.
 Phorodon humuli (syn. Aphis, A. pruni-mahaleb), general account, 3:115-18; 8:207-10; in Europe and America, 8:207; lady bird preying on, 3:116; life history, 8:207-8; rapidity of propagation, 8:267; ravages of, 3:84; 4:12; reference, 1:8, 319, 320; 3:148; 4:197, 199; 6:103; 7:331-335; 8:122; 9:294, 369; 10:495, 512; 12:307; 14:345⁴, 348⁶, 349⁴, 352³, 359⁹, 360⁷, 380⁶; remedies and preventives, 3:117; 8:209, 210; when to fight it, 8:208.
 Photuris pennsylvanica, 8:298; 11:284; 13:373³.
 Phoxopteris nubeculana, 1:329; 8:123, 297; 11:266.
 semiovana, 10:483.
 Phragmites communis, *see* Reed-grass.
 phragmitidicola, Leucania, 1:340.
 Phrygania, 1:83.
 Phryganid larvae, 14:351³.
 Phryganidae, 1:79; 4:202; 8:300; 10:377; 12:298-99; 13:375³.
 phryganoides, Mantis, *see* Gonatista grisea.
 Phycidae, 1:140.
 Phyciodes mylitta, 8:296.
 tharos, 4:137.
 Phycis indigenella, *see* Mineola.
 Phyllaphis fagi (syn. Eriosoma), 2:181; 9:408.
 phyllira, Arctia, *see* Euprepia.
 Euprepia (syn. Arctia) 3:153.
 Phylloidesma americana (syn. Gastropacha), 1:328; 9:456; 11:265; 14:313⁶.
 Phyllostromia germanica (syn. Ectobia), 1:62; 4:131; 7:326; 8:300.
 Phylloecus flaviventris, *see* Janus integer.
 trimaculatus, *see* Cephus.
 Phyllophaga, *see* Lachnosterna.
 pilosicollis, *see* Lachnosterna tristis.
 Phylloptera oblongifolia, *see* Amblycorypha.
 phyllopus, Leptoglossus, 1:268; 3:153; 14:346⁷.
 Phyllostreta striolata, *see* P. vittata.
 vittata (syn. P. striolata, Haltica striolata, Orchestris), 1:60, 195, 244, 310; 3:99; 5:301; 7:372; 9:375; 14:319⁷; 353⁶.
 Phylloxera, 1:50; 2:35, 214; 4:188; 5:241; 6:185; 10:362; 11:248, 249.
 caryaecaulis, 11:248, 287.
 depressa, 6:189.
 Phylloxera vastatrix, *see* P. vitifoliae.
 vitifoliae (syn. P. vastatrix, Pemphigus), 1:4-5, 322; 2:36; 7:371; 8:264; 9:347, 464; 10:498; 14:318⁶, 319³, 330⁶, 383⁴.
 Phylloxerae, 10:451.
 phylloxerae, Rhizoglyphus, 10:451, 487; 14:377⁶.
 Tyroglyphus, 10:451, 452, 453; 11:258.
 Phymata erosa, *see* P. wolffii.
 wolffii (syn. Acanthia erosa, P. erosa), 3:107-10; 7:371; 8:300; 9:463; 11:117; 14:319², 352⁶.
 Physalis, Lema trilineata on, 4:142, 207.
 Physalospora bidwellii, *see* Black rot.
 Physocephala furcillata, 5:285.
 physoderus, Pyrophorus, 11:175.
 Physogaster larvarum, *see* Heteropus ventricosus.
 Physopoda, 11:247, 249.
 Physostegania pustularia (syn. Stegania), 10:483.
 Phytocoridae, 1:271.
 Phytocoris bellus, *see* Poecillocapsus lineatus.
 linearis, *see* Lygus pratensis.
 lineatus, *see* Poecillocapsus.
 lineolaris, *see* Lygus pratensis.
 quadrivittatus, *see* Poecillocapsus lineatus.
 Phytomyza affinis, erroneous reference of P. chrysanthemi.
 chrysanthemi (P. lateralis, P. affinis in error), 4:75-79, 207; 7:242-46; 9:421; 10:510; 14:357⁶, 374⁶.
 dimidiata, 7:243.
 flava, 4:79.
 flaviceps, 4:79.
 lateralis, erroneous reference of P. chrysanthemi.
 nigricornis, 4:79; 7:242.
 obscurella, 4:79.
 solita, 7:243.
 Phytomyzidae, 4:73, 78; 7:242.
 Phytonomus comptus, 1:248.
 eximius, 1:248.
 meles var. trifolii, 1:248.
 nigrirostris, 1:248.
 opimus, *see* P. punctatus.
 punctatus (syn. P. opimus, Curculio), attacked by fungus, 4:178; 5:272-73; 7:315-16; attacking beans, 2:14-15; bibliography, 1:247; description of beetle and cocoon, 1:247-48; detailed account, 1:247-53; distribution, 1:252-52; first notice of, 1:249-50; importation of, 1:251-52; life

- history, 1:250-51; reference, 5:312; 6:182; 8:300; 9:440; 10:488, 511; 14:329², 336¹, 337², 337⁶, 374⁶, 378¹; remedies, 1:253; 10:488; spread, 2:3.
 rumicis (syn. Hypera), 1:248.
 Phytophaga, number of species in U. S., 4:181.
 Phytoptidae, 5:290; 9:377, 442; 10:453-60.
 Phytoptus, 10:459, 460, 503.
 persicae, 10:459, 460.
 phloeocoptes, 10:460.
 pruni, 12:318, 350; 14:391⁹, 399⁶.
 pyri, 7:365; 9:442; 10:453-59, 501, 503; 12:352; 14:367⁵, 375⁷, 384⁹, 386², 393³.
 quadripes, 5:303, 326; 14:354³.
 piatrix, Catocala, 1:90.
 picea, Clothilla, *see* Lepinotus piceus.
 piceus, Attagenus (syn. A. dichrous, A. megatoma, A. rufipennis, A. spurcus, Dermestes, D. megatoma), 1:64; 2:46-48, 138, 226; 6:120, 188; 7:377, 382; 9:299-306; 10:498; 11:276; 14:322⁷, 332¹, 383⁴, 388³.
 Dermestes, *see* Attagenus.
 Lepinotus (syn. Clothilla picea), 2:201.
 picipes, Melanolestes (syn. Pirates, Reduvius pungens), 4:109-11; 5:316; 14:339¹, 357⁶.
 Otiorynchus, *see* O. singularis.
 Pirates, *see* Melanolestes.
 picivorus, Pachylobius, 3:144; 14:344².
 Pickering, C., cited, 12:238.
 Pickle caterpillar or worm, 5:320; 11:126-34, 135, 136, 138; 12:357; 14:395⁶.
 Pickled fruit fly (Drosophila), 1:65, 216-21, 330; 6:117, 173; 11:267; 14:323⁹, 335⁹.
 Picromerus bidens (syn. Pentatoma), 4:133.
 picta, Ceramica, *see* Mamestra.
 Harmonia, 2:186.
 Mamestra (syn. Ceramica, C. exusta), 2:1; 4:16, 206; 5:206-10; 9:455; 10:492; 11:265; 13:372³, 14:313⁴, 362⁷, 379⁹.
 pictipes, Aegeria, *see* Sesia.
 Sesia (syn. Aegeria), 5:280.
 pictus, Clytus, *see* Cyllene.
 Cyllene (syn. Clytus), 1:297; 2:223; 8:110, 175, 176; 10:497; 13:360¹, 373⁸; 14:331², 382⁷, 400².
 Pie plant, Lixus concavus on, 1:260.
 Pierce, W. C., insects from, 11:286.
 pieridis, Microgaster, *see* Apanteles congregatus var.
 Pieris caterpillar attacked by fungus, 7:316.
 oleracea, 1:322; 4:136; 7:219; 9:444, 449; 10:507; 12:308; 14:309⁴, 311⁶.
 rapae, captured first at Quebec, 1:240; 7:335; 8:251; common wasp preying on, 3:135; disease of, 2:40; 4:178; increased destructiveness in this country, 1:9; Phymata wolffii (syn. P. erosa) preying on, 3:109; poisonous ? nature of, 9:446; Pteromalus bred from, 9:447; reference, 1:8, 86, 189, 194, 267; 2:90, 92, 93; 4:136; 5:285, 300; 7:219; 9:442, 454; 12:308; 14:310³, 310¹, 310², 312⁷, 353³, 375; remedies, 1:39, 52, 59; 2:26; 9:442.
 Pig nut, Lachnus caryae on, 5:304.
 Pig nut hickory, Elaphidion villosum (syn. E. parallelum) attacking, 12:362.
 Pigeon, John, insects from, 10:517.
 Pigweed, insects on;
 Hydroecia nitela (syn. Gortyna) 1:112; 8:191.
 Plusia brassicae, 2:91.
 Poecilocapsus lineatus, 1:277.
 pilicornis, Bittacus, 10:476.
 piliferus, Haematopinus, 1:48.
 pilleriana, Oenectra, 1:56.
 Pilophorus cinnamopterius (syn. Camaronotus), 2:186.
 fraternis (syn. Camaronotus), 2:186.
 pilosicollis, Lachnosterna, *see* L. tristis.
 Phyllophaga, *see* Lachnosterna tristis.
 pimpinellae, Curculio, 1:248.
 Pimpla conquisitor (syn. P. pleurivinctus), 1:85, 86; 5:310; 11:134, 138; 14:358⁸.
 inquisitor (syn. Cryptus), 1:84.
 lunator, *see* Thalesa.
 pleurivinctus, *see* P. conquisitor.
 species, 5:170.
 Pimplariae, 1:145.
 pinastri, Ellema, 9:449.
 Pine, insects injurious to;
 Anomala lucicola, 10:410.
 Aphis pinicolens, 9:406.
 Aphrophora parallela, 5:245; 9:393.
 saratogensis (syn. Lepyrionia), 9:393.
 Basilona imperialis (syn. Eacles), 2:21; 9:449; 13:346³.

Pine, insects injurious to (*cont'd*)

- Callidium* species, 2:23.
Chermes corticalis, 2:140, 184.
 pini, 2:140, 184.
 pinicorticis, 2:180-87; 4:147;
 9:454; 14:312^o.
Chionaspis pinifoliae, 2:184; 7:
 366, 384; 9:377.
Cixius pini, 9:385.
Clastoptera obtusa (syn. *C.*
 pini, *C. testacea*), 5:245; 8:
 153-55, 299; 9:393-94.
Coccus, 2:140.
Crypturgus pusillus (syn. *C.*
 atomus), 2:24.
Dendroctonus frontalis, 10:500.
Eriosoma strobis (syn. *Lachnus*),
 9:409.
Hylotrupes bajulus, 4:20, 23.
Icerya purchasi, 4:187.
Lachnus strobis (syn. *Schizo-*
 neura), 3:125.
Livia femoralis, 9:404.
Lophyrus abbotii, 1:42.
Lycia cognataria (syn. *Amphi-*
 dasy), 2:101.
Lygaeonematus erichsonii (syn.
 Nematus), 5:168.
Melanoplus spretus, 2:25.
Monohammus confusor, 2:50.
Phlepsius strobis, 9:398, 410.
Pinipestis zimmermani (syn.
 Nephopteryx), 7:373.
Pissodes strobis, 2:24; 9:345.
Thanasimus dubius, 4:142.
Tolyte laricis, 1:88, 90; 2:21.
Trichogramma species, 8:296.
Typhlocyba coccinea (syn. *Em-*
 poa), 9:403.
Urocera albicornis, 13:340^o.
 Austrian; insects injurious to;
 Chionaspis pinifoliae, 5:266; 7:
 366, 384; 11:203.
 Thrips species, 7:384.
 California. *Chionaspis pinifoliae*
 on, 7:366.
 Scotch, insects injurious to;
 Chermes pinicorticis, 2:180.
 Parharmonia pini (syn. *Har-*
 monia), 13:370^o.
 white, insects injurious to;
 Aphrophora parallela, 5:245.
 Basilona imperialis (syn.
 Eacles), 13:350^o.
 Chermes pinicorticis, 2:180.
 Chionaspis pinifoliae, 5:267.
 Lophyrus lecontei, 11:284.
 Pissodes strobis, 3:241; 9:345.
 Pine bark *Chermes*, 2:180-87; 4:147;
 9:454; 14:342^o.
 Pine beetle burrowing in linen, 8:285.
 Pine borer, long horned, 2:49.
 Pine *Clastoptera*, 10:497; 14:382^o.
 Pine emperor moth, 2:232; 4:21; 14:
 334^o.
 Pine inch worm, 10-lined, 4:20.
 Pine leaf scale insect, 10:518; 11:
 203, 277; 14:388^o.
 Pine tree borers, 2:55; 10:500; 13:
 370^o, 370^o; 14:384^o, 398^o.
 Pine weevil, 9:345; 14:383^o.
 pineum, *Ellema*, 9:449; 14:307^o, 311^o.
pini, *Chermes* of Europe, 2:184.
 Cixius, 9:385.
 Clastoptera, *see C. obtusa*.
 Harmonia, *see Parharmonia*.
 Parharmonia (syn. *Harmonia*),
 4:19; 13:370^o, 371^o; 14:398^o.
pinicola, *Anomala*, *see A. lucicola*.
pinicolens, *Aphis*, 9:406, 412.
pinicorticis, *Chermes* (syn. *C. pini-*
 foliae, *Coccus*), 2:180-87; 4:
 147; 9:454; 14:312^o, 342^o, 357^o.
 Coccus, *see Chermes*.
pinifoliae, *Aspidiotus*, *see Chionas-*
 pis.
 Chermes, *see C. pinicorticis*.
Chionaspis (syn. *Aspidiotus*), 2:
 180, 184; 5:266; 7:366, 384; 9:
 377; 10:518; 11:203; 14:368^o.
 Gelechia, erroneous reference
 of *G. pinifoliella*.
pinifoliella, *Gelechia* (*G. pinifoliae*
 in error), 1:156.
Pinipestis zimmermani (syn. *Ne-*
 phopteryx), 4:19; 7:373; 14:320^o.
 Pink, insects injurious to;
 Epicauta pennsylvanica, 6:136.
 Poecilocapsus lineatus, 1:277.
Pinus austriaca, *see Pine*, Austrian.
 strobis, *see Pine*, white.
 sylvestris, *see Pine*, Scotch.
Pionea rimosalis, *see Evergestis*.
Piophila casei (syn. *Tyrophaga*),
 bibliography, 12:229-30; food
 habits, 12:233; infesting salt pork,
 12:230; insect described and
 figured, 12:231-33; life history, 12:
 232-33; losses caused by, 12:233;
 preventives and remedies, 12:234;
 reference, 12:348; 14:391^o, 399^o.
Piophilidae, species treated of, 12:
 229-34.
pipiens, *Culex*, 12:321, 327.
Pirates biguttatus, *see Rasahus*.
 picipes, *see Melanolestes*.
piscatrix, *Donacia*, 10:511.
pisi, *Bruchus*, *see B. pisorum*.
pisorum, *Bruchus* (syn. *B. pisi*,
 Curculio), 6:127, 128; 7:256,
 263, 268, 280, 286; 9:439; 12:
 355; 14:353^o, 373^o, 394^o.
 Curculio, *see Bruchus*.
Pissodes strobis, 3:141; 4:20, 23; 9:
 344-45; 10:498; 14:383^o.

pithecium, *Ecnomidea*, *see* *Phobetrion*.
Limacodes, *see* *Phobetrion*.
Phobetrion (syn. *Ecnomidea*, *Limacodes*), 1:328; 2:227; 4:206; 5:183-92, 306; 7:381; 9:443, 455-56, 461; 11:264, 285; 14:313⁵, 332⁷, 355⁷, 362⁸, 376².
Pityolita pedipalalis, 10:482.
Pityophthorus puberulus, 2:54.
 species "h," *see* *Xylocleptes decipiens*.
 Place, J. A., insects from, 10:511.
placida, *Agrotis*, *see* *Rhynchagrotis*.
Rhynchagrotis (syn. *Agrotis*), 11:265.
placidus, *Sphenophorus* (syn. *S. immunis*, *S. rectus*), 1:254, 255.
plagiator, *Ephedrus*, 5:253.
plagiatus, *Cossus*, *see* *Prionoxystus robiniae*.
Plagioderia scripta, *see* *Melasoma*.
Plagionotus speciosus (syn. *Arhopalus*, *Clytus*, *Glycobius*), bibliography, 12:237-38; description of beetle, 12:239; distribution, 12:241; family characteristics, 12:238-39; food plants, 12:242; formerly a rare insect, 3:103-4; 12:240; life history, 12:240-41; natural enemies, 12:242; ravages of the insect, 3:104-5; 8:202-5; 12:239-40; reference, 1:297; 2:227; 6:169; 9:442; 10:493, 497, 504, 511, 517; 11:280, 286; 12:243, 362; 14:332⁴, 352⁶, 361⁴, 375⁸, 380², 382⁵, 386⁵, 389⁸, 399⁶; remedies, 9:105; 12:242.
Plagidis keutzingaria (syn. *Eurymene*), 1:329; 11:266.
 Planck, Dr M. G., insects from, 4:205.
Planosa laricis, *see* *Tolype*.
 velleda, *see* *Tolype*.
 Plant bug, tarnished, 5:275; 9:375; 13:351⁴-57⁸; 14:400⁹. *See also* *Lygus pratensis*.
 Plant diseases, increase in, 4:185.
 Plant lice, abundance of, 3:83, 150; 8:266; 10:426-29, 489; 12:352; *Adalia* feeding on, 12:298; army worm moth attracted by, 12:203; classification, 1:4, 79; cold water for, 7:345; contact insecticides for, 4:190; 8:274-75; 9:418, 432; damage caused by, 3:84; kerosene emulsion for, 5:302; 10:495; lady bugs feeding on, 1:61, 318; 2:186; 3:148; 4:81, 83, 85, 194; 6:118; 7:217; 10:501; larva of lace winged fly

destroying, 2:186; Mantis feeding on, 1:161; prolificacy of, 1:14; reference, 1:161; 2:184; 3:152; 4:165; 6:171; 8:263; 9:319; 10:365, 505; 11:200, 225, 275; 13:368², 368⁹; 14:340⁶, 347⁵, 353⁸, 354⁵, 361², 377³, 393⁶, 397⁹, 400⁸; remedies for, 1:25, 40, 59; 5:315; species imported, 1:8; Syrphid larvae destroying, 1:212; 2:186; 12:350; ugly bee slayer (*Phymata*) feeding on, 7:371.
 on alder, 9:346-47.
 apple trees, 3:118-21; 9:373; 13:363³.
 asters and lilies, 9:371-72; 10:501.
 beech, 3:123-26, 153.
 carrots and parsnips, 3:123.
 cherry, 9:345-46; 13:363⁵.
 currant, 9:370; 13:363⁵, 362⁷.
 elm, 3:126-27; 5:319; 13:362⁷.
 fruit trees, 10:365-66, 491.
 maple, 13:362³, 363¹.
 muskmelon, 5:306.
 peach roots, 5:315.
 plum, 9:368-69; 13:363⁶.
 poplar, 13:362².
 potatoes, 3:121-22, 149.
 vegetable roots, 10:484.
 woolly, 5:282; 10:494; 14:380⁵.
Plantago, *see* *Plantain*.
Plantain, *Ecpantheria fed on*, 12:189.
 insects injurious to;
 Chelymorpha argus, 4:14.
 Dibolia borealis, 10:414-16, 511.
 Peridroma saucia (syn. *Agrotis*), 5:203, 205.
 Poecilocapsus lineatus, 1:227.
Plantain flea beetle, 10:414-16, 511.
Plantain leaf miner, 10:414-16, 511; 12:352; 14:393¹.
Platanus occidentalis, *see* *Sycamore*.
Platartia hyperborea (syn. *P. parthenos*), 9:452; 14:312³.
 parthenos, *see* *P. hyperborea*.
Plathemis trimaculata, 9:464; 13:375².
Plattsburgh morning telegram cited, 7:358; 14:364⁸.
platyceril, *Lecanium*, 11:222.
Platycerura furcilla, *see* *Panthea*.
Platygaster error, *see* *Anopodias*.
 herrickii, 1:321.
 larva, 2:231.
Platymetopius acutus (syn. *Jassus*), 9:402, 410.
Platynus sinuatus, 12:209.

- Platyphyllum concavum*, see *Cyrtophyllum concavum*.
Platysamia cecropia, see *Samia*.
plecta, *Agrotis*, see *Noctua*.
Noctua (syn. *Agrotis*), 1:8; 10:482.
Plemyria fluviata, see *Percnoptilota*.
Plesiastina annulata, 10:392.
pleurivinctus, *Pimpla*, see *P. conquisitor*.
plexippus, *Anosia* (syn. *Danais archippus*), 4:135-36; 5:285; 8:287; 10:490; 14:357³, 379².
plicata, *Chlamys*, 12:362.
Plodia interpunctella (syn. *Ephesia*), 1:8; 4:206; 10:510; 11:267; 12:360.
plota, *Sphinx*, see *S. canadensis*.
Plowrightia morbosa (syn. *Sphaeria*), 5:280; 320. See also Black knot.
 Plugging trees with sulfur, 14:381², 390⁷.
 Plum, insects injurious to;
 Anarsia lineatella, 1:152.
 Anomala marginata, 10:412.
 aphids, 3:84.
 Aphis mali, 9:431-32.
 prunifoliae (*A. pruni* in error), 8:125, 299; 9:369; 11:276; 12:350.
 Aspidiotus nerii, 5:279, 317; 8:215; 11:204.
 perniciosus, 11:206, 207, 224; 12:316.
 Basilona imperialis (syn. *Eacles*), 2:232.
 Callosamia promethea, 5:324.
 Carpocapsa pomonella, 9:340.
 Chrysobothris femorata, 6:155.
 Clisiocampa disstria (syn. *C. sylvatica*), 3:91, 147.
 Conotrachelus nenuphar, 3:85; 6:104; 7:289; 8:125; 9:297, 440.
 cut worms, 2:231.
 Elaphidion villosum (syn. *E. parallelum*), 9:359.
 Eriocampa adumbrata, 5:323.
 Eriocampoides limacina (syn. *Eriocampa cerasi*), 9:335.
 Halisdota caryae, 13:369⁷; 14:398⁴.
 Homoptera *lunata*, 4:58.
 Hylphantria cunea (syn. *H. texator*), 1:306.
 Incisalia irus (syn. *Thecla*), 3:140.
 Lecanium prunastri (*L. juglandis* in error), 11:205.
 Leptocoris trivittatus, 10:433.
 Macroductylus subspinosus, 1:229; 5:154.
 Mytilaspis pomorum, 11:202.
 Myzus cerasi (syn. *Aphis*), 2:21; 5:256; 9:346, 440.
 Notolophus leucostigma (syn. *Orgyia*), 2:77.
 Otiorychus tenebricosus, of Europe, 2:52.
 Phobetrion pithecium, 5:307.
 Phorodon humuli, 4:13; 6:167; 8:210.
 Phytoptus phloeocoptes, 10:460.
 Rhopalosiphum species, 13:363⁶.
 Scolytus rugulosus, 3:152; 4:103, 105, 106.
 Sesia pictipes (syn. *Aegeria*), 5:280.
 Sphinx drupiferarum, 1:327.
 Telephorus bilineatus, 8:174.
 Thecla liparops (syn. *T. strigosa*), 4:137.
 Thyridopteryx ephemeraeformis, 1:84.
 Tmetocera ocellana, 7:306, 355.
 white grubs, 9:354.
 Xyleborus dispar, 1:310; 7:350.
 Chickasaw, *Phytoptus pruni* on, 12:318; 14:391⁹.
 sand, black knot on, 5:281.
 wild, *Phorodon humuli* (syn. *Aphis pruni-mahaleb*) on, 1:320.
 wild goose, *Myzus cerasi* on, 14:375².
 Plum *curculio*, arsenical spraying for, 7:290; attacking apple, 1:331; 4:201; attacking peach, 2:6; 7:374; bibliography, 7:288; detailed account, 7:288-96; in "black knot," 5:280; injurious, 8:125; 9:297; london purple or paris green for, 7:291; oviposition of, 2:7; 7:295-96; 11:122; paris green, how to mix, 7:292-93; reference, 1:259, 261, 316; 2:124; 3:85; 4:106; 5:300, 325; 6:104; 7:343; 9:422, 440; 11:270, 279; 12:266, 271; 14:320⁵, 350², 353³, 364⁶; remedies, 1:45, 57, 58, 63, 65; 4:201; 7:289-95; 9:417, 433-34; *Sigalphus* parasitic on, 1:308; soldier beetle larva preying on, 4:86; spraying, beneficial results of, 7:293-95; spraying experiments on, 9:417, 433-34, strength of mixture for, 7:291-92; Thrips destroying eggs of, 2:31; 11:248; time to spray for, 7:290-91.
 Plum gouger, 4:17; 7:293; 11:270.
 Plum leaf fungus, 4:185.
 Plum mite, 12:350; 14:391⁹.
 Plum tree aphids, 9:368-69; 10:498; 11:276; 14:383³, 388⁶.
 Plum tree moth, 11:266.

- Plum tree Phytoptus, 10:460.
 Plum tree scale (*Lecanium prunas-tri*), 11:205-6, 271, 277, 278; 14:388⁹, 389⁴.
 Plum tree Sphinx, 11:264.
 Plumbago, *Aramigus fulleri* on, 2:143.
 plumbeus, *Tomocerus* (syn. *Podura bicolor*), 2:205, 244.
 Plume moth, gartered, 8:284; 12:218-22; 14:399⁴. *See also* *Oxyptilus periscelidactylus*.
 plumifera, *Psyche*, 1:83.
 plumigeraria, *Boarmia*, *see* *Coniodes*.
 Coniodes (syn. *Boarmia*), 10:494; 11:266; 14:380⁶.
 Plusia aerea, 10:376, 482.
 aeroides, 9:456; 10:376, 482; 14:313⁷.
 ampla, 10:377.
 balluca, 9:456; 10:376; 12:308; 14:313⁷.
 bimaculata, 10:376.
 brassicae (*P. ni Grote* in error), bibliography, 2:89-90; cannibalistic habits, 2:93; description of stages, 2:90-91; detailed account, 2:89-93; distribution and injuries, 2:92; 9:296; food plants, 2:91-92; general account (abstract), 6:184; number of broods, 2:92; number of parasites from one larva, 1:156; parasites of, 1:156; 3:410; reference, 1:189; 2:94; 9:422, 462; 14:330³, 342⁵, 378²; remedies, 1:65; 2:93; resemblance to *Plusia ni*, 2:92.
 cultu, 2:97; 14:307³.
 dyaus, *see* *P. rogationis*.
 epigaea, 10:377.
 formosa, 10:377.
 gamma, 1:119.
 mappa, 10:377.
 mortuorum, 5:285; 10:376, 377.
 moths, 2:96.
 ni, of Europe, 1:189; 2:89, 90, 92; 6:184.
 ni *Grote*, erroneous reference of *P. brassicae*.
 ou, 2:97.
 precationis, 2:97; 10:376, 482; 13:372³.
 purpurigera, *see* *Deva*.
 putnami, 10:377.
 rogationis (syn. *P. dyaus*), 2:94-97, 228; 14:333¹, 342⁵.
 selecta (syn. *P. viridisignata*), 10:377.
 simplex, 10:376, 487; 14:378³.
 thyatiroides, 10:377.
 u-aureum, 10:376, 377.
 viridisignata, *see* *P. selecta*.
 Plusias, in the Adirondacks, 6:178; 10:376; scarcity of, 12:308.
 Plutella cruciferarum (syn. *Cerostoma brassicella*), 1:322.
 pluvialis, *Anthomyia*, 1:171.
 Clisiocampa, 11:265.
 Plympton, A. S., insects from, 6:188.
 Poa annua, grain aphid on, 5:252.
 pratensis, *see* *Grass*.
 poaphagus, *Limothrips*, 5:153.
 podagra, *Dimeraspis*, *see* *Microdon globosus*.
 Podisus cynicus (syn. *Arma grandis*), 1:331; 7:356, 361; 14:365⁸.
 modestus, 5:170; 6:189; 7:353; 13:374⁴.
 spinosus (syn. *Arma*), 1:331; 2:146; 6:137; 8:238, 300; 9:457; 12:262; 14:314², 368².
 Podosesia syringae, 9:338, 461; 10:498; 14:383⁷.
 Podura aquatica, 2:210; 7:374; 11:253.
 bicolor, *see* *Tomocerus plumbeus*.
 fimetaria, *see* *Aphorura armata*.
 humicola, *see* *Achorutes*.
 nivalis, *see* *Degeeria*.
 nivicola, *see* *Schoturus*.
 species, *see* *Achorutes diversiceps*.
 Poduridae (spring tails), 1:79, 101; 6:173; 7:374; 11:251-54; 14:320⁹, 324⁴.
 Poecilocapsus goniphorus, 11:284.
 lineatus (syn. *Capsus 4-vittatus*, *Lygaeus*, *Lygus*, *Phytoecoris*, *P. bellus*, *P. 4-vittatus*), 1:271-81; 4:200; 5:273; 10:512; 11:284; 12:363; 14:336³, 349⁷, 350⁴, 363⁴.
 Poeciloptera pruinosa, *see* *Ormenis vulgaris*, *see* *Lamenia*.
 Poecilosoma candidatum, 13:336⁴.
 Poey, Phelipe, *Centurie de Lépidoptères de l'île de Cuba* cited, 11:134.
 Pointer, Mrs E., insects from, 8:299.
 Poke berry, *Ecpantheria ocularia* (syn. *E. scribonia*) feeding on, 12:183, 189.
 Polistes fuscatus, *see* *P. pallipes*.
 pallipes (syn. *P. fuscatus*), 1:330; 3:135; 6:109; 11:264, 284.
 polita, *Mesograpta*, 7:233.
 Polites peckius (syn. *Pamphila*), 4:137.
 politum, *Trypoxylon*, 12:359.

- politus, *Phalacrus*, 6:170; 14:361⁵.
Pollenia atramentaria, of Europe, 9:313.
 rudis (syn. *Musca*, *M. familiaris*), 2:117; 8:297; 9:309-14, 439; 10:498, 510, 516; 12:361; 13:370⁸; 14:375¹, 383⁵, 398⁸.
 vespillo, 9:310, 313.
Polycaon confertus, 1:330; 2:131; 11:268.
Polydesmidae, species treated of, 12:300-3.
Polydesmus, habits of species, 12:301.
 canadensis, see *P. serratus*.
 complanatus, 3:133, 142, 153; 12:301, 349.
 falcatus, 12:364.
 serratus, 3:133; 12:301, 349.
 species, 14:346⁸.
 virginiensis, 3:134.
polygama, *Catocala*, see *C. grynea*.
polygonalis, *Mecyna*, 11:142.
polygoni, *Gastroidea*, 8:298; 10:519.
Polygonia comma (syn. *Grapta*), 8:187; 10:507; 11:284; 13:371⁵; 14:309⁵; form *dryas*, 4:137.
 faunus (syn. *Grapta*), 4:137; 5:282, 317; 10:507; 14:309⁵, 339⁶.
 interrogationis (syn. *Grapta*, *G. c-aureum*), 6:187; 8:187, 300; 9:446; 10:508; 14:310³, 310⁶.
 var. *umbrosa* (syn. *Grapta umbrosa*), 9:446; 10:508.
 progne (syn. *Grapta*), 4:137; 10:507; 11:284; 14:309⁵.
 satyrus (syn. *Grapta*), 7:375; 14:321³.
Polygonum, *Hydroecia nitela* (syn. *Gortyna*) on, 1:112.
 amphibium, *Lixus rubellus* on, 1:260.
 aviculare, see *Knotgrass*.
 persicaria, see *Lady's thumb*.
polygrapha, *Corythuca*, 4:109.
Polygraphus rufipennis (syn. *Apate*), 2:54.
polyphemus, *Telea*, 2:77; 3:140; 9:456; 10:481, 493, 515; 11:265, 285; 13:350⁷; 14:313³, 380⁴.
Polyphylla, scarred, 11:268.
Polyphylla decemlineata, 11:268.
 variolosa (syn. *Macronoxia*), 1:54, 71, 330; 11:268.
Polystictus versicolor, a fungus, 9:462.
Polystoechotes punctatus, 5:286.
polyturator, *Pelecinus*, 10:515, 519.
polyxenes, *Papilio* (syn. *P. asterias*), 3:140; 4:136; 10:507, 515; 12:307; 14:309⁴.
Pomace fly, pretty, 11:267.
Pomegranate, *Icerya purchasi* on, 4:187.
pometaria, *Alsophila* (syn. *Anisopteryx*), 1:11, 57, 72, 329; 4:15, 139, 140, 206; 11:266; 13:365³, 370⁸; 14:357⁸, 396⁸, 398⁸.
 Anisopteryx, see *Alsophila*.
pometella, *Rhinosia*, see *Ypsolophus pometellus*.
pometellus, *Chaetochilus*, see *Ypsolophus*.
 Ypsolophus (syn. *Argyrolepia pomoriana*, *A. sylvaticana*, *Chaetochilus C. contubernallellus*, *Rhinosia pometella*, *Y. contubernallellus*), 1:300, 301, 329; 11:267.
pomicorticis, *Mytilaspis*, see *M. pomorum*.
pomifoliella, *Bucculatrix*, see *Bucculatrix pomifoliella*.
 Lithocolletis (syn. *L. crataegella*), 1:330; 11:267.
pomivorella, *Micropteryx*, 1:330; 10:510; 11:267.
pomonella, *Carpocapsa*, see *Carpocapsa pomonella*.
 Rhagoletis, see *Trypeta*.
 Trypeta (syn. *Rhagoletis*), 1:330; 2:117-25, 227, 234; 4:174; 5:300; 8:245-49; 10:391, 499; 11:267; 12:347, 348; 14:336⁷, 342⁸, 343⁸, 353², 384⁵, 391³.
pomoriana, *Argyrolepia*, see *Ypsolophus pometellus*.
pomorum, *Anthonomus*, 11:270.
 Aspidiotus, see *Mytilaspis*.
 Mytilaspis, see *Mytilaspis pomorum*.
Pomphopoea aenea, 1:331; 11:269.
 sayi (syn. *Lytta*), 6:136; 14:368¹.
Pompilius species, 13:341³.
Pomroy, Norman, insects from, 5:325; 6:188; 9:464; 10:512, 517; 11:286; 12:246.
pomum, *Pontania* (syn. *Nematus salicis-pomum*), 5:173; 12:359, 360; 14:362⁵.
Pontania pomum (syn. *Nematus salicis-pomum*), 5:173; 12:359, 360; 14:362⁵.
 species, 13:336⁶.
Popenoe, E. A., cited, 4:156; 7:255; 10:432.
Poplar, insects injurious to;
 Agrilus anxius (syn. *A. torpidus*), 5:283.
 Bryobia pratensis, 7:322.
 Cicada septendecim, 2:176.
 Cossus centerensis, 3:140; 7:373; 8:294.

- Poplar, insects injurious to (*cont'd*)
 Lygaeonematus erichsonii (syn. *Nematus*), 5:171.
 Mamestra grandis, 5:210; 14:362⁷.
 Mytilaspis pomorum, 11:202; 13:374⁸.
 Oecanthus niveus, 7:384.
 Pheosia dimidiata, 14:310⁴.
 Scoliopteryx libatrix, 8:172.
 Thyridopteryx ephemeriformis, 1:84.
 Trichiocampus viminalis (syn. *Aulacomerus lutescens*), 4:44; 7:223.
 Lombardy, *Crepidodera helxines* on, 4:102.
 Poplar borer, 11:269.
 Poplar feeding cut worm, 5:210.
 Poplar saw fly, 4:44-46; 5:171; 7:223; 9:439; 14:357⁵, 374³.
Popular gardening cited, 4:194; 7:361; 14:347⁷, 365⁴, 365⁶, 365⁷.
Popular science news cited, 7:364; 14:367¹.
 populatum, *Eustroma* (syn. *Cidaria packardata*), 7:375; 14:321⁸.
 populi, *Chaitophorus* (syn. *Lachnus*), 9:407, 411, 412.
 Lachnus, *see* *Chaitophorus*.
 populi-transversus, *Pemphigus*, 13:361⁹-62²; 14:400⁸.
 populifoliae, *Aphis*, *see* *Chaitophorus*.
 Chaitophorus (syn. *Aphis*), 9:406, 411, 412.
Populus balsamifera, *see* *Balm-of-Gilead*.
 dilatata, *see* *Poplar*, Lombardy.
 monilifera, *see* *Cottonwood*.
 tremuloides, *see* *Poplar*.
 Pork, salt, *Piophilha casei* infesting, 12:230.
Porthetria dispar (syn. *Ocneria*), 7:302-4, 336, 357; 9:422-26, 432-33, 434, 440; 10:369-72, 485; 11:264; 14:363⁹, 374⁷, 377⁵, 392⁶.
 posticata, *Imatisma*, *see* *Mallota*.
 Mallota (syn. *M. barda*, *M. cimbiciformis*, *M. sackeni*, *Eristalis*, *E. coactus*, *Imatisma*, *Merodon balanus*, *M. bardus*, *Milesia barda*), 1:211-16; 4:141; 6:173; 14:324², 335⁹.
 posticatus, *Eristalis*, *see* *Mallota posticata*.
 Potato, insects, etc., injurious to;
 Aphids, species of, 3:84, 121, 148, 149; 14:345⁵, 345⁶, 352⁸.
 Aphorura armata (syn. *Lipura fimetaria*), 2:210.
 Bibio albipennis, 2:112.
 Cantharis nuttalli (syn. *Lytta*), 8:294.
 Chrysochus auratus, 4:142.
 Coptocycla bicolor (syn. *C. aurichalcea*), 7:376; 14:320⁶.
 clavata, 5:322; 6:126, 175; 14:325⁶.
 signifera (syn. *C. guttata*), 7:369.
 Cosmospepla carnifex, 2:146; 9:458; 14:314³.
 cut worms, 8:236.
 Doryphora decemlineata, 2:3; 4:191; 5:290-91; 8:122; 9:297.
 Epicauta cinerea, 6:135; 8:294; 12:354.
 pennsylvanica, 1:305; 6:135; 11:286.
 vittata, 1:300; 6:132, 176; 7:376; 12:354; 14:322⁵, 326².
 Epidapus scabies, 10:447.
 Epitrix cucumeris (syn. *Crepidodora*), 10:489; 14:378⁹.
 Hydroecia nitela (syn. *Gortyna*), 1:112, 305; 2:226; 7:377; 8:191; 14:326¹, 332³.
 Julus caeruleocinctus, 3:132, 142, 153; 9:464; 10:445-46; 14:346⁸, 377⁹.
 Lachnosterna fusca, 9:296.
 Lema trilineata, 2:133; 10:491; 11:286; 14:379⁵.
 Lygus pratensis, 8:291; 12:363; 13:351⁷, 352², 354⁴; 14:315⁴.
 Macrobasis unicolor, 5:321; 8:291; 12:315, 362; 14:341⁴, 354⁹.
 Macroductylus subspinosus, 1:229.
 Mamestra grandis, 5:210.
 Melanoplus spretus, 1:7.
 Oxytelus rugosus, 3:142.
 plant louse, 3:121, 149.
 Polydesmus complanatus, 3:133, 142.
 Rhizoglyphus phylloxerae, 10:451, 487; 14:377⁹.
 Rhopalosiphum solani (syn. *Me-goura*), 3:121, 149; 14:345⁵, 345⁶.
 Sciara fucata, 5:265.
 hyalipennis, 5:265.
 longipes, 5:265.
 pauciseta, 12:224, 361.
 pulicaria, 5:265.
 quinquelineata, 5:265.
 vittata, 5:265.
 Systema taeniata (syn. *S. blanda*), 4:156.
 Trichobaris trinotata, 3:106, 149.
 Tyroglyphus lintneri, 12:352.
 Uropoda americana, 3:142.
 white grubs, 9:356.
 wire worms, 14:332⁸.

- Potato, sweet, insects injurious to;
Cassida nigripes, 6:127; 7:363, 383.
Coptocycla bicolor (syn. *C. aurichalcea*), 2:223; 6:125, 127; 7:363; 14:330⁷.
Cylas formicarius, 3:141, 154.
 Potato aphid, 3:121, 148, 149; 14:373⁴.
 Potato beetle, blister (*Cantharis atrata*), 1:305; (*Epicauta pennsylvanica*), 6:135; (*Epicauta vittata*), 6:132; (*Macrobasis unicolor*), 5:321.
 Colorado (*Doryphora decemlineata*), abundance of, 5:153; 9:297; mite, 5:289-91, 318; 7:312; reference, 1:43, 236, 244; 2:112, 133, 136, 147; 3:135, 154; 4:156; 5:300; 6:132; 7:345, 378; 8:221, 274; 9:422; 11:274, 288; 12:235, 236, 237; 13:364⁵; 14:314², 316³, 320³, 340³, 341¹, 359⁷, 349³, 353³, 363⁵, 385⁵, 387⁵, 396⁴; remedies, 1:26, 32, 39, 44; 9:297; species preying on, 1:145; 2:3; 4:161-62; 5:289-91; 6:137, 190; 7:312; 9:457; 10:496, 502; 12:235-37; spread of, 1:239, 267; 4:191.
 tortoise (*Chrysochus*), 4:142.
 Potato beetle killer (*Lebia grandis*), 10:496; 12:235-37.
 Potato bug (*Doryphora decemlineata*), *see* Potato beetle, Colorado.
 Potato mites, 10:451; 14:393².
 Potato scab, prevention of, 10:447-48.
 Potato stalk weevil, 3:106, 149; 4:204; 14:345⁵, 352⁶.
 Potentilla, *see* Cinquefoil.
 Potter wasp, fraternal, 2:231; 6:109-11.
 Powdery mildew, 4:185.
 Powell, E. C., insects from, 10:519; 11:251.
 Powell, G. T., cited, 9:318; insects from, 4:206; 5:325; 7:382, 383; 10:519; 11:286.
Practical entomologist cited, 1:81, 172, 253, 264; 2:111, 125, 148, 168, 180; 3:133; 4:28, 107, 114; 5:192; 7:288; 8:159; 9:300, 307; 10:408; 11:145, 197, 248; 12:235; 13:351⁶; 14:310².
 Praedores, number of U. S. species, 4:181.
Prairie farmer cited, 1:99, 110, 264; 2:148; 5:246; 6:147; 9:300; 10:378, 433; 11:145, 249.
Prairie farmer annual cited, 11:145.
Praon avenaphis, 5:253.
 prasina, *Agrotis*, *see* *Adelphagrotis*.
Adelphagrotis (syn. *Agrotis*), 1:8; 10:377, 482.
 pratensis, *Bryobia* (syn. *B. pallida*, *Trombidium bicolor* in error), 2:224; 3:128-30; 6:158, 159, 161, 180; 7:321-24, 365; 9:440; 10:450, 486; 11:272, 288; 13:375⁴; 14:328⁴, 331⁶, 352⁵, 367³, 368³, 374⁷, 377⁹.
 Cimex, *see* *Lygus*.
 Lygus, *see* *Lygus pratensis*.
 pratorum, *Achorutes*, *see* *Schoturus*.
Schoturus (syn. *Achorutes*), 2:206.
 Pratt, Mrs. H. A., on habits of carpet beetle, 11:172.
 precatonis, *Plusia*, 2:97; 10:376, 482; 13:372³.
Press and Knickerbocker [Albany] cited, 7:358; 9:446.
 Preston, E. J., insects from, 12:311, 360.
 pretiosa, *Catocala*, *see* *C. crataegi* var.
Trichogramma, 2:220, 229; 4:194, 197, 205; 14:333⁴, 347⁸, 348⁶.
 Preventives, *see* Remedies and preventives.
 Price & Reed, insects from, 10:509.
 Prickly ash, *Heraclides crespontes* (syn. *Papilio*) on, 9:337.
 Primula, insects injurious to;
Otiorhynchus singularis (syn. *O. picipes*), 2:52.
sulcatus, 2:52.
Thrips species, 11:248.
 primus, *Derostenus*, 10:369; 12:267.
 princeps, *Epicordulia* (syn. *Epi-thea*), 11:288.
Epithea, *see* *Epicordulia*.
 Princes pine, *Sitodrepa panicea* in, 4:92.
 Prindle, C. N., insects from, 6:189.
 Prionidus cristatus (syn. *Cimex*, *Prionotus*), 2:230; 4:113; 5:316; 6:138-41; 8:294; 14:317¹, 333⁶, 339², 368².
Prionotus cristatus, *see* *Prionidus*.
Prionoxystus macmurtrei (syn. *Cossus querciperda*), 2:216; 7:220, 375; 14:322¹.
 robiniae (syn. *Cossus*, *C. crepera*, *C. plagiatus*, *C. reticulatus*, *Xyleutes*), 2:216; 7:375; 9:426, 450; 11:265; 14:322¹.
 Prionus, broad necked, 1:330; 11:268.
 tile horned, 11:268.

- Prionus imbricornis*, 1:330; 11:268.
laticollis, 1:330; 4:22; 11:268; 13:373^o.
Priophora serrata, *see* *Haematobia*.
Pristiphora grossulariae, *see* *Gymnonychus appendiculatus*.
 Privy fly, 1:168, 171.
proboscideus, *Balaninus*, *see* *Balaninus proboscideus*.
Cureulio, *see* *Balaninus*.
Prochoerodes nubilata, *see* *Sabulodes*.
transversata, *see* *Sabulodes*.
Proconia, four striped, 9:395-96.
Proconia quadrivittata, *see* *Diedrocephala coccinea*.
Procris americana, *see* *Harrisina*.
Proctotrupes, 1:308.
Proctotrupidae, 1:241.
prodigiosa, *Traumatomyia*, 4:72.
prodromus, *Aphodius*, 7:312.
progne, *Grapta*, *see* *Polygonia*.
Polygonia (syn. *Grapta*), 4:137; 10:507; 11:284; 14:309^o.
prolifca, *Chloropisca*, *see* *C. variiceps*.
Sciara, 12:226, 227; 13:372^o.
Promachus apivorus, *see* *P. fitchii*.
fitchii (syn. *P. apivorus*, *Trupanea apivora*), 1:318.
Promethea, assembling of, 1:70, 71.
promethea, *Attacus*, *see* *Callosamia*.
Callosamia (syn. *Attacus*), 1:72, 98, 328; 5:324; 9:455; 12:338-41; 14:313^o.
Prominent, *Unicorn*, 1:328; 11:265.
Pronuba yuccasella, 2:215.
propertius, *Nisoniades*, *see* *Thanaos*.
Thanaos (syn. *Nisoniades*), 1:334, 335; 6:180; 14:327^o.
propinqualis, *Rivula*, 4:206.
propinquans, *Stenobothrus*, *see* *Orphulella pelidna*.
prostrata, *Homalomyia*, 1:171.
Proteopteryx spoliata, 11:266.
Proteoteras aesculana, 12:214, 215, 216, 217.
claypoliana, *see* *Steganoptycha*.
proteus, *Clastoptera*, 1:285; 5:245; 9:394.
Eudamus, 1:337; 6:180; 14:327^o.
Protoparce celeus, *see* *Phlegethonius*.
 Provancher, L'Abbé Leon, *Faune du Canada* cited, 2:198; *Additions et corrections au volume II de la Faune entomologique du Canada*, *Hyménoptères* cited, 5:164; 11:109; *Petite Faune entomologique du Canada*, *Coléoptères* cited, 4:93; 5:232; 9:300, 307; *Hémiptères* cited, 5:242; 8:152, 154; 10:430.
provocans, *Culex*, 12:321.
proxima, *Chlorops*, 1:226.
pruinella, *Anarsia*, *see* *A. lineatella*.
pruinosa, *Cicada*, *see* *C. tibicen*.
Ormenis (syn. *Poeciloptera*), 9:387, 410.
Poeciloptera, *see* *Ormenis*.
pruinsum, *Lecanium*, 11:271.
prunastri, *Lecanium* (*L. juglandifex* and *L. juglandis* in error), 10:518; 11:205, 206, 271, 278; 14:389^o.
Prune, *Bryobia pratensis* on, 7:322.
pruni, *Acronycta* (*A. clarescens* in error), 1:328; 11:265.
Aphis, erroneous reference of *A. prunifoliae*.
Phytoptus, 12:318, 350; 14:391^o, 399^o.
pruni-mahaleb, *Aphis*, *see* *Phorodon humuli*.
prunicida, *Coccotorus*, *see* *C. scutellaris*.
prunicola, *Aphis* (syn. *A. persicaeniger*, *Myzus persicae*), 2:19-23; 5:256, 315; 9:369; 11:279; 14:338^o, 389^o.
prunifoliae, *Aphis* (*A. pruni* in error), 8:125, 299; 9:369; 11:277; 12:350; 14:388^o, 392^o.
prunina, *Lachnosterna*, 11:268.
prunivora, *Grapholitha*, 1:329; 11:266.
prunivorella, *Ornix*, *see* *O. geminata*.
prunus, *Amphibolips* (syn. *Cynips*), 4:42, 43; 14:357^o.
Cynips, *see* *Amphibolips*.
Prunus mahaleb, *see* *Plum*, wild.
maritima, *see* *Plum*, sand.
serotina, *see* *Cherry*, wild.
simoni, *Lecanium* species on, 12:363.
virginiana, *see* *Cherry*, choke.
 Pruyn, R. C., insects from, 6:190.
Psectra diptera (syn. *Hemerobius delicatulus*, *H. dipterus*), 4:176.
Psenocerus supernotatus, 1:321, 331; 3:138; 11:268.
pseudacaciella, *Argyromiges*, *see* *Lithocolletis robinella*.
Pseudaglossa lubricalis, 1:340; 11:284.
Pseudanthonomus crataegi (syn. *Anthonomus*), 1:331; 11:270.
pseudargiolus, *Cyaniris* (syn. *Lycaena*), 5:285; 7:375; 8:291; 14:315^o, 321^o, 321^o.
 var. *lucia*, *Cyaniris* (syn. *Lycaena lucia*), 7:375; 8:291; 14:315^o.
 var. *neglecta*, *Cyaniris* (syn. *Lycaena neglecta*), 7:374; 8:291; 14:315^o, 321^o.
Lycaena, *see* *Cyaniris*.

- pseudargyria*, *Leucania*, 1:340; 10:482.
Pseudococcus aceris, 11:287.
Pseudoneuroptera, 1:161; 4:167; 11:106, 288.
Pseudothyatira cymatophoroides (syn. *P. expultrix*), 10:481.
expultrix, see *P. cymatophoroides*.
Psila rosae, 1:46, 49.
Psithyrus, studies of, 11:104.
celatus, 11:104.
citrinus, 11:104.
Psoa maculata, 11:268.
Psocidae, 1:65, 161, 316; 2:198, 199, 201, 202; 5:323; 6:161; 11:248; 12:364; literature of, 2:203.
Psocus aceris, see *P. venosus*.
domesticus, 1:65, 162.
quietus, 1:161.
semistriatus, 1:161.
tritici, 1:298.
venosus (syn. *P. aceris*), 1:161, 316.
Psolini, 2:132.
Psorophora ciliata (syn. *Culex ciliatus*), 12:327.
Psoroptes communis (syn. *P. equi*), 7:362; 14:366¹.
equi, see *P. communis*.
Psyche cited, 1:81, 99; 2:69, 116, 203, 229, 230, 231; 5:184, 193, 311; 7:225, 256, 380; 8:151, 160; 9:309, 330; 10:377, 388, 405, 416, 417, 477, 478; 11:134, 157, 160, 178, 181, 182, 248, 249, 250; 12:183, 190, 192, 194, 214, 218, 230, 238, 243, 254, 265, 273, 298; 13:341¹, 343⁷, 343⁹, 344², 344³, 344⁶, 344⁷, 352³, 353⁷; 14:323³, 333¹, 333⁵, 334¹, 334², 336⁷.
Psyche plumifera, 1:83.
Psycomorpha epimenis, 9:455; 14:313².
Psylla, four lined, 9:404.
three dotted, 9:404.
Psylla annulata, see *P. carpini* var. *buxi*, 2:18.
carpini, 9:404, 411.
var annulata, 9:404, 411.
mali, 9:323.
pyri, erroneous reference of *P. pyricola*.
pyri of Europe, 9:321, 322.
pyricola (*P. pyri* and *P. pyrisuga* in error), bibliography, 9:317-18; characteristics of its family, 9:319; description by Harris, 9:321-22; detailed account, 9:317-29; distribution, 9:325, 429, 445; 10:425-26; earliest notice of, 9:319-21; injuries by, 8:124; 9:325, 326; life history, 9:326-28; on apple trees, 1:331; ravages by, 8:219-20; recent multiplication in Hudson river valley, 9:322-24; reference, 8:280, 281, 285, 299; 9:293, 434, 441, 466; 10:498, 518; 11:271; 12:352; 14:370², 370⁷, 372², 375⁴, 376⁸, 383⁵, 393⁶; referred to *P. pyricola*, 9:322; remedies, 9:329, 430.
pyrisuga, erroneous reference of *P. pyricola*.
quadrilineata, 9:404, 411.
simulans, 9:328.
tripunctata, see *Trioza*.
Psyllidae, 1:300; 2:18; 7:367; 9:317, 319, 381, 404, 411; 10:425-26; 11:271.
Psylliodes punctulata, 1:296.
Ptelea trifoliata, see *Hop tree*.
Pteris aquilina, see *Brake*, common.
Pteromalinae, 4:29, 66; 7:307.
Pteromalus, 1:86, 225, 307; 2:79.
fulvipes, see *Merisus*.
gelechia, 2:110.
hordei, see *Isosoma*.
puparum, 1:86; 9:447, 454; 14:310⁸, 310⁹.
tritici, see *Isosoma*.
Pteronus ribesii (syn. *Nematus*, *N. ventricosus*) egg parasite of, 2:217-20, 229; 4:205; oviposition, 2:220-21; *Podisus cynicus* preying on, 7:356; reference, 1:8; 3:85, 88, 144; 7:335; 8:125; 14:333⁴, 344¹; remedies, 1:41, 46, 56; 5:156-57.
Pterophori, hibernation of, 12:221.
Pterophoridae, family characteristics, 12:219; species treated of, 12:218-22.
Pterophorus periscelidactylus, see *Oxyptilus*.
Pterostichus, 10:493.
sculptus, 12:209.
Ptilodontinae, 1:137.
Ptinidae, 2:125, 132; 4:22, 88; 8:285; 11:268.
Ptinus brunneus, 4:90, 92; 6:188.
fur, 2:138; 4:93.
quadrifasciatus, 3:138; 4:93; 6:188.
Ptycholoma persicana, 10:483.
Ptyelus lineatus (syn. *Cercopis*, *Cicada lineata*), 4:120; 5:245; 7:383; 14:357⁷.
puberulus, *Pityophthorus*, 2:54.
Publilia concava (syn. *Entilia*), 9:387, 410.
pulchraria, *Cleora*, see *Nepytia semiclusaria*.
Pulex irritans, 1:62; 6:173; 14:324³.
serraticeps, see *Ceratopsyllus*.

- pulicaria, *Corimelaena*, 5:319; 8:212-14, 283; 10:497; 14:340⁵, 371⁵, 382⁶.
Sciara, 5:265; 10:388.
 pulicarius, *Lathridius*, *see* *L. ruficollis*.
 Pulicidae, 1:79.
 pulsatoria, *Clothilla* (syn. *Atropos pulsatorius*), 1:162, 298, 316; 2:201, 202; 5:323; 14:341⁸.
 pulsatorius, *Atropos*, *see* *Clothilla pulsatoria*.
 Pulvinaria acericola *Walsh & Riley* (syn. *Lecanium*), 6:143, 147; 7:370; 11:205.
 innumerabilis (syn. *Coccus*, *C. aceris*, *Lecanium acerella*, *L. acericorticis*, *L. caricae*, *L. maclurae Auth.*; *Coccus hesperidum* and *Pulvinaria vitis* in error), bibliography, 6:146-47; description, 6:142; 11:204, 205; detailed account, 6:141-47; food plants, 6:143; 7:370; general account, 1:301, 309, 310; history, 6:142-43; infesting grape vines, 2:22; 6:145-46; infesting maples, 1:309, 310; 2:230; 5:313; 8:177-78; 11:205; life history, 6:143; reference, 3:146; 5:326; 7:376, 384; 8:110, 216; 10:497, 499, 512; 11:204, 205, 275, 281; 14:318⁵, 318⁷, 322⁴, 333⁷, 338², 344⁸, 368², 382¹, 384³, 388², 390⁵; remedies, 5:313; 6:143-45.
 maclurae *Kenn.* (syn. *Coccus*, *Lecanium*), 1:301; 6:142, 143.
 salicis, 9:411.
 vitis, erroneous reference of *P. innumerabilis*.
 vitis of Europe, 6:146.
 pumila, *Myobia*, 11:177.
 Phora, 10:403.
 pumilionis, *Chlorops*, *see* *Oscinis*.
 Oscinis (syn. *Chlorops*), 1:225, 226.
 pumilus, *Brachynemurus* (syn. *Myrmeleon*), 11:238.
Myrmeleon, *see* *Brachynemurus*.
 Pumpkin, insects injurious to;
Anasa tristis, 3:110.
 cut worms, 8:236.
Heliothis armiger, 1:120.
Melittia satyriniformis (syn. *M. cucurbitae*), 2:63.
 punctata, *Coptocycla*, *see* *C. bicolor*.
Hyphantria, *see* *H. cunea*.
Pelidnota, 1:307; 5:229, 310, 312, 325; 11:268, 286; 12:362; 13:373⁵; 14:358⁷.
Sciara, 10:388.
Synchroa, 11:269.
 punctatissima, form of *Basilona imperialis*, 13:350⁴.
 punctatus, *Curculio*, *see* *Phytonomus*.
Phytonomus, *see* *Phytonomus punctatus*.
Polystoechotes, 5:286.
 punctipennis, *Anopheles* (syn. *A. hyemalis*, *Culex hyemalis*, *A. quadrimaculatus* in error), 1:298; 2:241; 12:320; 14:343².
Haltica, 11:269.
 punctistriga, *Artace*, 8:287; 14:373².
 punctor, *Culex*, *see* *C. consobrinus*.
 punctulata, *Psylliodes*, 1:296.
 pungens, *Culex*, 12:321.
Reduvius, *see* *Melanolestes picipes*.
 Punky or little gray gnat, 7:364; 11:106; 14:367².
 puparum, *Pteromalus*, 1:86; 9:447, 454; 14:310⁸, 310⁹.
 purchasi, *Icerya*, 4:187, 188; 5:326; 6:104; 7:340; 8:275; 11:271.
 Purdue university, course in entomology at, 12:344.
 purgatum, *Ophion*, 12:193, 211.
 purpurana, *Cacoecia*, 10:483.
 purpurescens, *Achorutes*, 2:207.
Purpuricenus humeralis, 1:297.
 purpurigera, *Deva* (syn. *Plusia*), 10:376.
Plusia, *see* *Dèva*.
 purpuripennis, *Gortyna*, *see* *Hydroecia u-album*.
 purpurissata, *Mamestra*, 10:377.
 pusillus, *Crypturgus* (syn. *C. atomus*), 4:20, 24.
 pustularia, *Physostegania* (syn. *Stegania*), 10:483.
Stegania, *see* *Physostegania*.
 putator, *Elaphidion*, *see* *E. villosum*.
Stenocorus, *see* *Elaphidion villosum*.
 Putnam, J. D., cited, 6:147.
 putnami, *Plusia*, 10:377.
 pygmaea, *Baetis* (syn. *Chloe*), 4:123.
Capnia (syn. *Perla nivicola*), 1:298; 2:239; 11:288; 14:343¹.
Chloe, *see* *Baetis*.
 pygmaeus, *Cephus*, 3:88, 147; 7:334; 8:167; 10:515.
 pylades, *Eudamus*, 1:337, 338.
 Pyralid web caterpillar, 1:329; 6:189; 11:266.
 Pyralidae, 1:127, 329; 4:14; 10:483, 487; 11:145-51, 266; reference to new species, 4:173.
Pyralis costalis (syn. *Asopia*, *Hypsopygaea*, *Phalaena*, *Pyralis fimbrialis*, *P. olinalis* in error), American history, 11:149-50; an associated species,

- 11:151; a European insect, 11:147; bibliography, 11:145-47; characters of family, 11:147; European history, 11:148-49; injuries by, 11:150-51; larva described, 11:148; life history, 11:150; moth described, 11:148; reference, 10:483, 487; 12:357; 13:358², 372⁴; 14:378², 395³, 400⁵; remedies and preventives, 11:151.
- farinalis* (syn. *Asopia*), 8:300; 10:483; 11:146, 151.
- fimbrialis*, see *P. costalis*.
- glaucinalis*, 11:148.
- hyalinata*, see *Margaronia*.
- olinalis* erroneous reference of *P. costalis*.
- Pyrameis atalanta*, see *Vanessa*.
- cardui*, see *Vanessa*.
- huntera*, see *Vanessa*.
- pyramidoides*, *Amphipyra*, 1:328; 4:138; 8:296; 11:265.
- Pyrausta adipaloides* (syn. *Botis*), 10:483.
- futilalis* (syn. *Botys*, *Botis erectalis*), bibliography, 11:138-39; eggs, 11:139; enemies of, 11:141-42; generations, number of, 11:141; larvae, habits and stages, 11:139-41; moth described, 11:141; pupa, 11:140-41; reference, 12:357; 14:395⁷.
- theseusalis* (syn. *Botis*), 10:483.
- unifascialis* (syn. *Botis*), 10:483.
- Pyraustidae*, 11:126-42.
- Pyrellia cadaverina* (syn. *Lucilia*), 1:299.
- Pyrethrum*, *Phytomyza chrysanthemi* (*P. lateralis* in error) in heads of, 4:77.
- inodorum*, see *Feverfew*, corn.
- Pyrgita domestica*, see *Sparrow*, English.
- Pyrgus*, structural characters, 1:336; 2:214.
- Pyrgus* (syn. *Scelothrix*), 1:336.
- caespitalis* (syn. *P. petreius*, *P. ricara*), 1:336.
- centaureae*, see *Hesperia*.
- ericetorum*, 1:336.
- macaira* (syn. *P. oceanus*), 1:336.
- maculatus*, see *Scelothrix*.
- oceanus*, see *P. macaira*.
- petreius*, see *P. caespitalis*.
- philetas*, 1:336.
- ricara*, see *P. caespitalis*.
- scriptura*, 1:336.
- tessellata*, see *Hesperia montivaga*.
- xanthus*, 1:336.
- pyri*, *Diaspis* (syn. *Aspidiotus circularis*, *D. ostreaeformis* in error), 1:331; 11:271.
- Eriosoma*, see *Schizoneura lanigera*.
- Lecanium*, 8:299; 11:271.
- Pemphigus*, see *Schizoneura lanigera*.
- Phytoptus*, 7:365; 9:442; 10:453-59, 501, 503; 12:352; 14:367⁶, 375⁷, 384⁹, 386², 393³.
- Psylla*, erroneous reference of *P. pyricola*.
- Psylla* of Europe, 9:321, 322.
- Sciara*, 5:265.
- Scolytus*, see *Xyleborus dispar*.
- Sesia*, 11:264.
- Tingis*, of Europe, 1:311.
- Typhlodromus*, 10:453, 455.
- Xyleborus*, see *X. dispar*.
- pyricola*, *Cecidomyia*, see *Diplosis pyrivora*.
- Psylla*, see *Psylla pyricola*.
- pyricolana*, *Steganoptycha*, 11:266.
- pyrina*, *Zeuzera* (syn. *Z. aesculi*), 9:426-27, 462; 10:485; 11:265, 275; 12:360; 14:377⁶, 388².
- pyrisuga*, *Psylla*, erroneous reference of *P. pyricola*.
- pyrivora*, *Diplosis*, see *Diplosis pyrivora*.
- Pyrophorus noctilucus*, a single species of the genus in U. S., 11:175; bibliography, 11:174-75; duration of life, 11:176-77; food habits, 11:177; number of tropical species, 11:175; reference, 12:357, 362; 14:393⁷; remarkable luminosity, 11:175-76.
- physoderus*, 11:175.
- Pyrrharetia californica*, see *P. isabella*.
- isabella* (syn. *Arctia*, *Estigmene*, *P. californica*, *Spilosoma*), 7:225-28, 368; 9:439; 10:481, 502; 14:369⁴, 374³, 385⁷.
- Pyrrhia umbra* (syn. *Chariclea exprimens*), 9:456; 14:313⁷, 316⁶.
- Pyrrhocoridae*, 2:164.
- Pyrrhocoris*, 1:69.
- calmariensis*, of Europe, 2:166.
- suturellus*, see *Dysdercus*.
- Pyrus japonica*, see *Quince*, Japanese.
- pyrus-malus*, *Coccus*, see *Mytilaspis pomorum*.
- quadrangularis*, *Aphrophora*, see *Lepyronia*.
- Lepyronia* (syn. *Aphrophora*), 1:285; 4:121; 5:245; 9:393.

- quadricornis, *Ceratonia*, see *C. amyntor*.
 quadrigibbus, *Anthonomus*, see *Tachypterus*.
 Tachypterus (syn. *Anthonomus*), 1:60, 331; 4:201; 6:174; 9:419; 11:270; 14:324⁶.
 quadriguttatus, *Ips* (syn. *I. fasciatus*), 1:330; 6:188; 11:267.
 quadrilineata, *Psylla*, 9:404, 411.
 quadrimaculatum, *Bembidium*, 3:98-100, 140, 146; 14:344⁷, 353⁴.
 quadrimaculatus, *Anopheles*, erroneous reference of *A. punctipennis*.
 Limonium, 7:351.
 Ptinus, 3:138; 4:93; 6:188.
 quadrinotata, *Aphrophora*, 5:245; 9:392.
 quadripes, *Phytoptus*, 5:303, 326; 14:354³.
 quadripustulata, *Winthemia* (syn. *Carcelia leucaniae*, *Exorista militaris*, *Nemoraia leucaniae*), 1:146; 7:376; 8:238; 12:190, 191, 194, 210, 354.
 quadrivittata, *Proconia*, see *Diedrocephala coccinea*.
 quadrivittatus, *Capsus*, see *Poecilocapsus lineatus*.
 Phytocoris, see *Poecilocapsus lineatus*.
 Quail feeding on army worm, 12:209.
 Quaintance, A. L., cited, 11:127, 135; 13:353⁸; referred to, 11:131.
 Quay, J., cited, 4:35.
 quebecensis, *Thalessa*, 4:41.
 querceti, *Euclea*, see *E. cippus*.
 querci, *Atymna* (syn. *Smilia*), 9:389, 410.
 Empoa, see *Typhlocyba*.
 Schizoneura, 2:181; 3:125.
 Smilia, see *Atymna*.
 Telamona, see *T. monticola*.
 Typhlocyba (syn. *Empoa*), 9:403, 410.
 quercicola, *Asterolecanium*, 10:519.
 Wollastonia, 2:53.
 quercifoliae, *Lachnus*, 9:407, 412.
 quercina, *Lachnosterna*, see *L. fusca*.
 querciperda, *Cossus*, see *Prionoxystus macmurtrei*.
 Quercus, see Oak.
 alba, see Oak, white.
 bicolor, see Oak, swamp, white.
 cinerea, see Oak, blue jack.
 coccinea, see Oak, scarlet.
 ilicifolia, see Oak, scrub.
 macrocarpa, see Oak, bur.
 nigra, see Oak, scrub.
 Quercus obtusifolia, see Oak, post.
 prinoides, see Oak, dwarf chestnut.
 rubra, see Oak, red.
 tinctoria, see Oak, black.
 vaccinium, *Lagoa crispata* on, 4:52.
 quietus, *Psocus*, 1:161.
 Quince, insects, etc., injurious to;
 Aspidiotus perniciosus, 11:207, 224.
 Carpocapsa pomonella, 2:11; 6:181; 14:328⁵.
 Chauliognathus pennsylvanicus, 4:85, 87.
 Conotrachelus crataegi, 2:11; 4:15, 208; 5:316; 6:181; 10:419-20; 14:328⁵.
 Corimelaena pulicaria, 8:213.
 Corythuca arcuata, 4:109.
 Diabrotica vittata, 4:103.
 Eriocampoides limacina (syn. *Eriocampa cerasi*), 9:335.
 Icerya purchasi, 4:187.
 Limonium confusus, 6:188; 7:351, 361; 13:373³; 14:365⁶.
 Saperda candida, 7:314.
 saw fly larvae, 2:232.
 Tetranychus telarius, 5:288, 322.
 Thyridopteryx ephemeraeformis, 1:84; 7:306; 11:285.
 Tingis cydoniae, 1:311.
 Japanese, or flowering, insects injurious to;
 Aspidiotus perniciosus, 11:224, 287.
 Chionaspis furfurus, 10:518; 11:203.
 Plusia brassicae, 2:91.
 Quince curculio, 2:11; 4:15, 87; 5:316; 6:181; 10:419-20, 511; 12:352; 14:328⁵, 393³.
 Quince tree aphid, 10:512.
 Quince tree borer, 8:280; 14:370¹.
 quinquedecimpunctata, *Anatis*, see *A. ocellata*.
 quinquelineata, *Sciara*, 5:265; 10:388.
 quinquelineatus, *Cixius*, see *Oliarus*.
 Oliarus (syn. *Cixius*), 9:386, 410.
 quinquemaculata, *Macrosila*, see *Phlegethontius celeus*.
 Sphinx, see *Phlegethontius celeus*.
 quinquenotata, *Coccinella*, see *C. transversoguttata*.
 Rabbit moth, 4:51-54; 14:357⁶.
 Race horse, *Stagmomantis carolina*, 4:160.

- radcliffei, *Acronycta*, 1:328; 11:265.
radiata, *Locusta*, *see* *Chortophaga viridifasciata*.
Tragocephala, *see* *Chortophaga viridifasciata*.
radiatus, *Gomphocerus*, *see* *Chortophaga viridifasciata*.
radicola, *Tylenchus*, 8:222.
radicum, *Anthomyia* (syn. *Musca*), 1:171, 184, 185, 186, 191-94, 196, 198; 14:335⁹.
Musca, *see* *Anthomyia*.
 var. *calopteni* *Riley*, *Anthomyia*, *see* *Phorbia fusciceps Zett.*
Radish, insects, etc., injurious to;
Anthomyia raphani, 1:48, 194-99; 2:28.
Anthomyians, 1:183.
Ceutorhynchus assimilis, 1:195.
Epitrix cucumeris, 1:195.
Melanoplus spretus (syn. *Caloptenus*), 1:195.
Murgantia histrionica, 1:267, 270; 9:316, 317.
munda, 9:317.
Nysius angustatus (syn. *N. destructor*), 1:195; 5:321.
Phorbia brassicae (syn. *P. floccosa*), 1:208.
Phyllotreta vittata (syn. *Orchestris*), 1:60, 195; 9:375.
Poecilocapus lineatus, 1:277.
 thousand legged worm (*Julus*), 1:307.
Radish fly, 1:48, 193, 194-99, 296, 322; 14:335⁹.
Radish seed weevil (*Ceutorhynchus assimilis*), 1:195.
Raeder, F. N., insects from, 7:383.
Rafinesque, C. S., cited, 4:128.
Ragonot, M., cited, 11:241.
Ragweed, insects feeding on;
Hydroecia nitela (syn. *Gortyna*), 1:112; 8:191.
Leucania unipuncta, 12:206.
Systema taeniata (syn. *S. blanda*), 4:156, 197, 198.
 great, *Hydroecia nitela* (syn. *Gortyna nebris*) on, 1:115.
Rains, Mrs G. W., insects from, 10:516, 519.
Raisins, *Silvanus surinamensis* infesting, 12:361.
ralla, *Orthosia*, 8:291; 14:315⁸.
Ramsden, E., insects from, 4:208.
Ramsey, C. H., insects from, 6:187, 188, 189.
Ramson, W. H., insects from, 7:382.
Ramularia tulasnei (strawberry leaf blight), 4:185.
rantalis, *Eurycreon*, *see* *Loxostege similalis*.
Ranunculus, *see* *Buttercup*.
rapae, *Pieris*, *see* *Pieris rapae*.
rapax, *Aspidiotus*, 11:271.
raphani, *Anthomyia*, 1:48, 171, 193, 194-99, 296, 322; 2:28; 14:335⁹.
Raphanus sativus, *see* *Radish*.
Raphidia cornuta, *see* *Corydalis*.
Raphitelus ?maculatus, 4:105.
Rasahus biguttatus (syn. *Pirates*), 4:112.
Raspberry, insects injurious to;
Agrilus ruficollis, 6:124; 10:406-7.
Anisota senatoria, 5:197.
Anomala marginata, 10:411.
Anthomyia species, 11:170, 285.
Aspidiotus perniciosus, 11:207, 224.
Bembecia marginata, 3:145.
Byturus unicolor, 8:298.
Ceresa bubalus, 1:315-18.
Corimelaena pulicaria, 8:213.
Figites rubus-caulis, 1:315.
Hydroecia cataphracta (syn. *Gortyna*), 10:373-76.
nitela (syn. *Gortyna*), 10:374.
Hyppa xylinoides, 4:138.
Jassus olitorius (syn. *Coelidia olitoria*), 9:398.
Limonius auripilis, 7:351.
Lygus pratensis, 13:352⁷.
Macroductylus subspinosus, 9:420.
Nysius angustatus, 5:321.
Oberea bimaculata (syn. *O. perspicillata* and *O. tripunctata*), 1:57, 297; 4:47, 189, 207; 5:231-33; 7:369; 9:457; 11:171; 14:314³, 318².
Oecanthus niveus, 1:315; 6:189.
Otiorynchus picipes, 2:52.
sulcatus, 2:52.
tenebricosus, 2:52.
Poecilocapsus lineatus, 1:277.
Synchlora glaucaria, 8:130; 14:372³.
Tischeria malifoliella, 11:162.
Typhlocyba vulnerator (syn. *Erythroneura*), 9:402-3.
Raspberry cane borer (*Hydroecia cataphracta*), 12:351; 14:314³, 318², 392⁹.
Raspberry cane girdler (*Oberea bimaculata*), 1:57; 4:47, 189, 207; 5:231-33; 7:369; 9:457; 11:170, 171; 14:362⁸.
Raspberry cane maggot (*Phorbia rubivora*), characteristics of attack, 11:171; distribution, 11:172;

- injuring raspberry canes, 11:170; observed in Canada, 11:170; observed in Michigan, 11:171; probably in Pennsylvania, 11:172; reference, 11:285; 12:357; 14:395^o; remedies, 11:172.
- Raspberry geometer (*Synchlora glaucaria*), 8:129-33; 10:497; 14:382^o.
- Raspberry gouty gall beetle (*Agrius ruficollis*), 6:123-25; 174; 14:324^o, 367^o.
- Raspberry root borer (*Bembecia*), 3:145.
- Raspberry rust, 4:185.
- rastricornis, *Chaetodes*, 8:107, 156-59.
- Rat tail larvae, 1:213; 6:173; 7:363; 8:287; 14:324^o, 372^o.
- Rathbone, A. B., insects from, 7:382.
- Rathvon, S. S., cited, 1:81, 227; 5:234; 6:147; 7:255, 279; on Cicada chambers, 12:283.
- Ratzeburg, J. T. C., *Forstinsekten* cited, 4:103; 5:164.
- Rear horse (Mantis), 4:160.
- Reaumur, R. A. F., cited, 2:102; *Memoires pour servir a l'histoire des insectes* cited, 2:102; 11:240.
- reclivata, *Telamona*, 9:391.
- rectus, *Balaninus*, 12:267-72; 14:399^o. See also *B. proboscideus*.
- Sphenophorus*, see *S. placidus*.
- Red bay, *Lecanium* on, 11:222.
- Red bug (*Dysdercus*), 2:166.
- Red scale, 1:60; 4:188.
- Red spider, 2:31; 3:129; 4:203; 5:287, 321; 6:159; 7:324; 8:255; 9:432; 14:341^o.
- Reddy, E. J., insects from, 5:324.
- redimicula, *Agrotis*, see *Carneades*.
- Carneades* (syn. *Agrotis*), 10:377.
- Redroot, *Chaetognathus marginatus* on, 4:86.
- Reduviidae, 4:109; 5:316; 6:138; 8:294.
- Reduvius personatus, see *Opsicodotus*.
- pungens, see *Melanolestes picipes*.
- Reed, C. M., insects from, 3:141; 9:463.
- Reed, E. B., cited, 2:57, 132; 4:63, 80; 5:216; 12:191, 235, 237; 13:343^o.
- Reed, Shelby, insects from, 3:140.
- Reed grass. *Sphenophorus sculpitilis* on, 1:259.
- regalis, *Citheronia*, 5:324; 13:347^o.
- regelationis, *Trichocera*, 11:267.
- Reilly, R. L., insects from, 9:463.
- Reindeer warble fly, 6:111.
- Reinecke, Ottomar, insects from, 12:315.
- Reinecke, Ottomar and Zesch, Frank, *List of Coleoptera observed and collected in the vicinity of Buffalo* cited, 7:285.
- reinwardtii, *Tabanus*, 13:372^o.
- Reitter, Edmund, *Catalogus Coleopterorum Europae, Caucasi et Armeniae Rossicae* cited, 7:256; 12:254.
- relictus, *Ligyris*, 4:204; 8:298; 10:506; 12:313; 14:341^o, 387^o.
- religiosa, *Mantis*, 4:162.
- Remedies and preventives for;
- Abbot's white pine worm, 1:42.
- Acarina on hens, 1:45.
- Agrius ruficollis*, 6:124.
- Agrotis mancus*, 12:356.
- Agrotis ypsilon*, 8:188, 190.
- alder flea beetle, 4:101.
- Alsophila pometaria* (syn. *Anisopteryx*), 13:365^o, 370^o.
- American blight aphid, or Woolly apple aphid, 2:35.
- American meal worm, 9:308, 309, 442.
- Anasa tristis*, 8:205, 206, 278.
- Angoumois moth, 2:109; 10:485, 492.
- Anisota senatoria*, 5:200.
- Anomala lucicola*, 5:305.
- marginata, 10:413, 491.
- ant, large black, 11:113, 114, little red, 11:114.
- red, 1:62, 65; 11:114.
- yellow, 11:273.
- Anthomyian flies, 1:65, 75.
- Anthrenus, 1:64.
- ants, 1:50, 62; 10:367, 368; in houses, 11:113, 114, 281; in lawn, 11:116; in strawberry beds, 10:502; on trees, 10:491; 11:280.
- Aphids or plant lice, 1:49; 2:31.
- Aphis gossypii* (syn. *A. cucumeris*), 8:212, 213, 283.
- mali, 8:123, 217, 281; 13:363^o.
- prunifoliae, 8:125; 12:350.
- apple bud worm, 11:121.
- apple curculio, 1:60.
- apple leaf *Bucculatrix*, 1:162; 5:262, 317; 8:219; 9:445.
- apple leaf miner, 9:445; 11:162.
- apple maggot, 2:123; 8:247, 248; 10:499; 12:347, 348.
- apple root plant louse, 1:47.
- apple scab, 10:488.

Remedies and preventives for (*cont'd*)

apple tree aphid, 5:160, 302; 8:123, 217, 285; 9:372, 373, 431-32; 10:489, 490; 13:363¹.
 apple tree bark louse, 4:118-19, 195; 5:319; 9:373.
 apple tree borer, 1:58, 64, 312; 2:25, 27; 5:163; 7:313; 10:488; 12:356; 13:366².
 round headed, 5:271, 320.
 apple tree case bearer, 1:166; 8:218; 11:122.
 apple tree caterpillar, red humped, 1:57; 5:309.
 yellow necked, 1:57.
 apple tree tent caterpillar, 1:56; 5:304; 8:122; 9:436, 441; 11:121.
 apple twig borer, 2:131.
 apple worm, 1:35, 58, 60, 63.
 army worm, 1:35, 53, 58; 9:443; 12:211-14, 352, 353; 12:211-14, 353.
 ash gray blister beetle, 1:32, 57; 5:305.
 asparagus beetle, 1:59, 61, 245, 246; 6:167, 179; 8:252; 11:181, 278; 12:252.
 twelve spotted, 12:252.
 Aspidiotus nerii, 5:317; 8:215, 279.
 Attagenus, 1:64.
 autumn tent caterpillar (fall web worm), 1:57.
 bacon beetle, 5:313; 6:121.
 bag or basket worm, 1:33, 57, 87; 4:204; 5:321; 6:177; 10:494.
 Balaninus proboscideus, 12:271, 272.
 rectus, 12:271, 272.
 bark borers, 2:55; 4:107.
 bark lice, 5:163; 8:279.
 bean weevil, 2:49, 229; 6:172, 179, 185; 7:275, 277, 285; 9:439; 11:276.
 beautiful wood nymph, 1:33.
 bed bugs, 1:62; 2:18; 9:458.
 beech tree blight, 12:355.
 bees, 13:369³.
 beet leaf miner, 5:322; 9:375.
 birch leaf Bucculatrix, 8:140.
 bird mites, 1:62.
 black fly, 1:74.
 black rot, 9:436.
 blight in asters, 9:372.
 blister beetle, 4:201.
 black, 6:136, 170; 9:443; 10:496; 11:281.
 margined, 1:33, 57; 12:354.
 striped, 1:33, 40; 6:132, 133, 176; 12:354.
 boll or corn worm, 1:126; 7:363.

Remedies and preventives for (*cont'd*)

Boophilus bovis (syn. Ixodes), 6:158.
 box elder plant bug, 10:438, 439, 503.
 broad striped flea beetle, 4:156.
 bronze colored cut worm, 1:110.
 brown rot, 9:369, 417.
 Bruchus chinensis (syn. B. scutellaris), 6:127.
 pisorum (syn. B. pisi), 12:355.
 Bucculatrix canadensisella, 8:140.
 pomifoliella, 8:219.
 Bud moth or worm, 7:216; 10:488.
 cabbage aphid, 6:148; 7:318, 372; 9:432; 10:495.
 cabbage butterfly, 1:39, 52, 59; 9:442.
 cabbage caterpillars, 1:65.
 cabbage fly, 1:47, 52, 190, 192, 199; 5:157, 158, 159; 9:431.
 cabbage gall weevil, 1:65.
 cabbage maggot, 4:194; 6:166; 9:418; 10:484.
 cabbage Plusia, 2:93; 6:184.
 cabbage worm, 1:59; 2:26, 27; 9:444.
 Calandra granaria, 8:278.
 canker worms, 1:33, 57, 64; 2:89, 27, 44; 3:95; 5:259; 10:488; 11:121; 12:350; 13:365⁴, 370³.
 carnation mite, 11:259, 260.
 carpet beetles, 1:64; 2:34, 48, 226, 314; 7:364.
 carpet bug, 1:59.
 carpet moth, 1:64.
 carrot fly, 1:46, 49.
 cattle tick, 6:158.
 celery fly, 1:49, 52.
 Cermatia forceps, 4:134; 8:282.
 Ceroplastes, 8:282.
 cheese mite, 13:365¹.
 cheese skipper, 12:234, 348.
 cherry or pear tree slug, 1:42, 60; 7:352; 9:336.
 cherry tree aphid, 5:256; 9:345, 346, 369; 13:368⁴.
 chestnut weevils, 12:271-72.
 chinch bug, 1:58; 2:161-62, 233; 7:332, 341; 11:199; 13:369⁴.
 Chionaspis furfurus, 12:348.
 Chloropisca variceps (syn. C. prolifica), 7:241.
 chrysanthemum fly, 7:246.
 Chrysobothris femorata, 12:356.
 Cicada septendecim, 2:178; 12:289.
 Climbing cut worms, 11:121.

Remedies and preventives for (*cont'd*)

Clisiocampa americana, 8:122.
 clothes moth, 1:64.
 clover hay caterpillar or worm, 10:487; 11:151.
 clover leaf weevil, 1:253; 10:488.
 clover root borer, 1:58.
 clover seed caterpillar, 10:496; 11:155-56.
 clover seed midge, 1:54; 4:12; 5:263.
 cluster fly, 9:312, 314, 439; 13:370⁴.
 cockroach, 1:62, 65.
 cockscomb elm gall aphid, 4:198.
 codling moth, 1:35, 60; 9:341, 417, 433, 435; 10:487, 488; 11:120.
Coleophora malivorella, 8:218, 281.
 Colorado potato beetle, 1:26, 39, 43; 9:297.
 corn curculio, 1:263.
 corn worm, 1:125.
Cosmopepla carnifex, 2:147.
 cotton worm, 1:35, 58, 125; 2:37.
 Cottonwood leaf beetle, 10:500; 11:184, 188.
 cow horn fly, 5:226, 227; 6:169; 7:332, 333; 8:194, 196; 9:442; 13:365⁹.
Craponius inaequalis, 8:286.
Crioceris asparagi, 8:252; 12:252.
 12-punctata, 12:252.
 croton bug, 1:62, 65.
 cucumber beetle, striped, 1:33; 2:28; 5:159; 6:169; 7:368; 9:362, 363, 364, 419.
 cucumber flea beetle, 1:33; 10:489.
 cucumber moth (*Margaronia nitidalis*), 5:320.
 curculio, 1:45, 51, 57, 63, 65; 4:201; 9:364, 365, 415, 416.
 currant *Amphidasys*, 2:101.
 currant aphid, 9:370; 11:276.
 currant borer, 1:57.
 currant scale, 11:275.
 currant stem girdler, 8:166.
 currant worms, 1:41, 46, 56; 2:24; 4:194; 5:156.
 cut worm, 1:58, 63; 2:28, 35; 5:157, 159; 8:238-42; 12:353; 13:366⁵.
 black, 8:188, 190.
Dermestes, 1:74.
 lardarius, 5:313; 6:121.
 vulpinus, 4:89-90.
Diabrotica 12-punctata, 7:315.

Remedies and preventives for (*cont'd*)

Diplosis pyrivora, 8:143, 150, 151.
 dried *Crambus*, 1:151.
Dynastes tityus, 5:231.
 eight spotted *Alypia* or forester, 1:33; 5:183.
Elaphidion villosum (syn. *E. parallelum*), 12:354.
 elm leaf beetle, 4:200-1; 5:239, 300, 301, 314; 7:363; 10:502; 11:195, 196, 279; 12:263, 264, 350; 13:366³.
 elm tree bark louse, 12:298.
 elm tree borer (*Saperda*), 9:428, 429; 10:484, 499; 12:247, 248, 355.
 elm tree borer (*Zeuzera*), 9:426-27.
Epicauta cinerea, 12:354.
 vittata, 6:133; 12:354.
Epilachna borealis, 7:311.
Eriocampa saw fly, 5:323.
Euthisanotia grata (syn. *Eudryas*), 5:183.
 eye spotted bud moth, 4:14; 7:216, 307, 360, 363; 8:218; 9:373; 11:121.
 false chinch bug, 5:321.
 fir saw fly, 1:42.
 flea beetle, red footed, 4:103.
 striped, 1:59; 5:301; 9:375.
 flea beetles, 1:45, 61, 65; 4:103, 156; 9:375.
 fleas, 1:62; 9:352-53.
 flies in green house, 10:489, 490; in stables, 1:45.
 "fly" in sheep, 1:48.
 forest tent caterpillar, 3:93.
 four lined leaf bug, 1:279; 4:200.
 Fuller's rose beetle, 2:144.
 fungous diseases, 9:436.
Galerucella luteola (syn. *G. xanthomelaena*), 8:222; 12:263-64.
 garden insects, 1:51.
 garden slugs, 11:274.
 gartered plume moth, 12:222.
Genista caterpillar, 11:145.
 golden tortoise beetle, 7:376.
 gooseberry worm, 2:10; 5:156.
Gossyparia ulmi, 12:298.
 gouty gall beetle, 10:406.
 grain aphid, 5:253; 7:360.
 grain moth (*Sitotroga*), 9:308, 309; 10:383, 384.
 grain weevils (*Calandra*, *Silvanus*, etc.), 1:40; 7:365; 8:278; 9:308, 309; 10:494.
 Grape berry moth, 2:33.
 grape curculio, 2:33; 8:286; 9:364, 365.

Remedies and preventives for (*cont'd*)

Grape leaf galls, 5:304.
 grape Phylloxera, 2:21, 22, 36.
 grape seed midge, 2:32.
 grapevine flea beetle, 1:59; 7:332, 353.
 grapevine gall midge, 4:65.
 grapevine leaf hopper, 4:199; 5:302; 9:430.
 grapevine thrips, 8:255-56.
 grapevine Tortrix, 1:56.
 grasshoppers, 2:34, 197; 10:496; 13:366.
 green grapevine caterpillar, 5:179.
 grubs on Mermet roses, 10:498.
 Gryllotalpa borealis, 6:150.
 gypsy moth, 9:423, 424, 425, 432-33, 434.
 Haematobia serrata, 8:194, 196; 13:365.
 ham skipper, 12:234, 348.
 harlequin cabbage bug, 1:40, 63, 269, 270; 9:316-17, 441; 11:280.
 Harrisina americana (syn. Procris), 2:231; 7:379.
 hessian fly, 1:58, 63; 5:263; 6:176.
 hickory tussock caterpillar, 7:355.
 Homoptera lunata, 1:59.
 honeysuckle saw fly, 1:42.
 hop root Gortyna, 2:35.
 hop vine aphid, 6:167, 169; 8:209, 210.
 hop vine grub, 1:61; 10:373.
 house flies, 1:36, 62; 13:370.
 Indian Cetonia, 1:238; 9:443.
 Isosma hordei, 4:33-34; 5:315.
 Janus integer (syn. J. flaviventris), 8:166.
 joint worm, 4:33-34; 5:315.
 juniper plant bug, 10:432.
 lady bugs, 5:257.
 larch aphid, 1:46.
 larch lappet, 1:99.
 larch saw fly, 5:172; 8:169.
 larder beetle, 5:313.
 Largus, margined, 2:167.
 Largus succinctus, 6:183.
 Lasioptera vitis, 4:65.
 leaf beetle, three lined, 1:32; 2:135; 10:491.
 leaf blights, 9:436.
 leaf crumpler, 11:121.
 leaf hoppers, 1:45.
 leaf miners, 9:376.
 leaf roller, oblique banded, 7:355; 9:374; 11:121.
 leather beetle, 4:39-40, 92.
 Lecanium species, 8:216, 282.
 Le Conte's saw fly, 1:42.

Remedies and preventives for (*cont'd*)

Leptodesmus falcatus, 12:302, 303, 349.
 lesser apple leaf folder, 11:121.
 Leucania unipuncta, 12:211-14, 352, 353.
 lice in henneries, 1:45; on cattle, 1:40, 45.
 light loving grapevine beetle, 10:410.
 locust tree borer, 7:363.
 Lygaeonematus erichsonii (syn. Nematus), 8:169.
 Lygus pratensis, 13:357.
 Macroductylus subspinosus, 8:201, 202.
 Mamestra picta, 5:209.
 manure fly, 10:393.
 maple leaf cutter, 5:219.
 maple leaf gall mite, 5:303.
 maple tree borer, 6:169; 8:203; 9:442; 10:493, 504; 12:242.
 maple tree pruner, 9:361.
 maple tree scale insect, 5:313; 6:144; 10:499; 11:281.
 Margaronia nitidalis (syn. Phakellura), 5:320.
 marguerite fly, 4:76.
 May bug, 1:57.
 meal worm, 9:442.
 melon caterpillar, 11:138.
 melon vine aphid, 8:212, 213.
 midge (black fly), 1:74.
 millepedes, 11:276; 12:302, 303, 349.
 mites, 5:287, 288, 293; 6:161, 170; infesting meat, 7:357; in henneries, 1:45; on arbor vitae, 4:201; on birds, 1:46, 62; on mushrooms, 10:450, 486.
 mole cricket, 2:233; 6:150.
 mosquito, 1:36, 38, 40, 74; 12:323.
 Murgantia histrionica, 12:349.
 museum pests, 6:175.
 mushroom Phora, 10:404.
 muskmelon borers, 10:503.
 Mytilaspis pomorum, 8:286; 12:348.
 Myzus cerasi, 12:350; 13:368.
 Notolophus leucostigma (syn. Orgyia), 6:181.
 oak pruner, 5:154; 9:361; 12:354.
 Oberea bimaculata, 5:233.
 Odontota dorsalis, 12:266.
 oleander scale insect, 8:215.
 onion fly or maggot, 1:46, 52, 177-79; 5:157, 159, 319; 10:486.
 ox warble fly, 4:199.

Remedies and preventives for (*cont'd*)

Oxyptilus periscelidactylus, 12:222.
Paleacrita vernata (syn. *Anisopteryx*), 5:259; 12:350; 13:365⁴, 370⁹.
 parasites on hogs, 1:45; on horses, 1:45.
Parlatoria scale insect, 8:215, 279.
 pea weevil, 1:49; 5:300; 6:129; 9:439; 12:355; 13:364⁸.
 peach bark *Scolytus*, 9:365.
 peach root aphid, 2:21; 5:315.
 peach tree borer, 1:47, 58, 59, 64, 2:5-6, 24; 5:163; 6:170; 7:361, 374; 8:111, 181-86, 284.
 peach twig moth, 1:156.
 pear blight beetle, 1:203; 4:203; 5:318.
 pear leaf blister mite, 7:365; 9:442; 10:458, 459, 501.
 pear midge, 8:143, 150-51; 11:119.
 pear tree aphid, 9:369.
 pear tree blight, 10:488.
 pear tree borer, 9:366.
 pear tree *Psylla*, 8:220; 9:329, 430, 441.
 pear tree slug, *see* Cherry tree slug.
 periodical *Cicada*, 12:289.
Phlegethontius celeus (syn. *Sphinx quinquemaculata*), 8:243-44.
Phorodon humuli, 8:208, 209, 210.
Phylloxera, 1:47, 50.
Phytomyza chrysanthemi (*P. lateralis* in error), 4:76.
Phytoptus pruni, 12:350.
 pickle caterpillar, 11:133.
 picked fruit fly, 1:65.
 pine bark *Chermes*, 2:186.
Piophilha casei, 12:234, 348.
Plagionotus speciosus (syn. *Glycobius*), 8:202-5; 12:242.
 plant lice, 1:25, 40, 59, 61; 2:32; 7:345; 9:418; 10:484, 489, 501; 13:368⁴, 368⁷.
 plum curculio, 7:289, 290, 346; 9:417, 433, 434; 11:122.
 plum leaf fungus, 9:417.
 plum tree aphid, 8:125; 9:369; 11:276.
 plum tree scale insect, 11:205, 276.
Plusia brassicae, 6:184.
Pollenia rudis, 13:370⁴.
 potato bug, 13:364⁷.
 potato scab, 9:436; 10:447.
 powdery mildew, 9:436.
Psocidae, 1:65; 2:36.

Remedies and preventives for (*cont'd*)

Psylla pyricola, 8:220.
Pulvinaria innumerabilis, 6:144.
 punctured clover leaf weevil, 2:16.
 quince curculio, 2:12; 4:15.
 quince tree blight, 10:488.
 quince tree borer, 8:280.
 radish fly or maggot, 1:48, 198, 199; 5:157, 159.
 raspberry cane girdler, 1:57; 5:233; 9:457.
 raspberry cane maggot, 11:172.
 raspberry gouty gall beetle, 6:124.
 raspberry slug, 1:42.
 red scale of California, 1:60.
 red spider, 5:322; 9:432.
 Rocky mountain locust, 1:50; 7:338, 339.
 root insects, 2:35.
 rose aphid, 5:162.
 rose bug, 1:45, 57, 231, 232; 2:66, 225; 4:198; 5:320; 6:166; 8:201, 202, 282; 9:418, 420; 10:501; 12:351.
 rose leaf caterpillar, 1:57.
 rose leaf hopper, 2:31; 6:166; 7:345; 12:356.
 rose leaf roller, 9:418.
 rose leaf Thrips, 8:257.
 rose leaf tyer, 5:215.
 rose slug, 1:42; 7:344; 10:499.
 rose twig borer, 1:57.
 round headed apple tree borer, 5:270.
 San José scale, 11:208, 210, 228-30; 13:332⁸.
Sanninoidea exitiosa (syn. *Sannina*), 8:182-86.
Saperda candida, 12:356.
 tridentata, 12:247, 248, 355.
 saw flies, 1:33, 42; 2:5.
 scale insects, 1:43, 49, 50; 2:6, 32, 37, 230, 232; 5:163, 279, 299, 317; 8:215, 216; 9:447, 454.
Schizoneura imbricator, 12:355.
 lanigera, 13:367¹.
Schizura concinna (syn. *Oedemasia*), 5:309.
 scolytid bark borers, 7:352.
Scolytus attack, 4:107.
 screw worm, 1:62.
 scurfy bark louse, 9:441.
 seed corn fly, 1:201.
 seventeen year *Cicada*, 2:178.
 sheep ticks, 1:49, 62.
 ship timber borer, 4:195.
 slugs and snails, 7:366.
 snapping beetle or bugs, 7:351; 12:354.

Remedies and preventives for (*cont'd*)

sour gum tree case cutter, 11:159.
 spotted horn bug, 5:231.
 spring canker worm, 1:33, 61; 5:303, 318.
 squash bug, 1:63; 2:29; 6:169; 8:205, 206, 278; 10:494, 504; 11:282.
 squash vine borer, 1:47; 2:58; 5:155, 313.
 stalk borer, 1:115.
 strawberry root grub, 9:443.
 strawberry slug, 9:431.
 strawberry weevil, 9:431; 10:495.
 strawberry worm, 1:42.
 sugar maple borer, 11:280; 12:242.
 tarnished plant bug, 9:375; 13:357³.
 tent caterpillars, 9:432, 444.
Tenthredo rufopectus, 13:337³.
Tettigonia rosae, 8:257.
 thousand legged worms, 5:507; 9:372; 10:448, 449, 487, 489.
 thrips (leaf hoppers), 2:29, 30, 38.
 Thrips (probably *T. tabaci*), 9:444.
 ticks on sheep, 1:49, 62.
Tinea, 1:64.
Tmetocera ocellana, 8:218.
 tobacco worm, 1:56; 8:243, 244.
 tortoise beetles, 1:33, 57.
 tree hopper, two marked or spotted, 1:288; 4:203; 10:493.
Tribolium ferrugineum, 2:137.
Trypeta pomonella, 8:247, 248; 12:347, 348.
 turnip flea beetle, 9:375.
 turnip fly, 1:52.
 tussock moth, white marked, 1:33, 61, 64; 2:83, 86; 6:181; 11:121.
Typhlocyba comes (syn. *Erythroneura vitifex*), 8:287.
rosae, 12:356.
Tyroglyphus species, 13:365¹.
 vagabond Crambus, 1:53, 131, 148, 149.
 vermin on domestic animals, 1:48, 49, 62; 11:275.
 violet *Nephelodes*, 1:110.
 walnut span worm, 10:494.
 warble fly, 6:114, 115.
 wasps, 13:369³.
 weevil in grain, 9:444; 10:492.
 wheat head army worm, 10:492.
 wheat stem maggot, 1:227.
 white Eugonia, 11:121.

Remedies and preventives for (*cont'd*)

white grub, 1:54, 61; 2:35, 224; 3:135; 5:159, 316, 317; 6:176, 183; 9:353-54; 10:500; 13:366⁴.
 wire worms, 1:46, 63; 2:35; 5:310; 8:197-200, 282, 283; 11:276; 12:347, 352, 356; 13:367³.
 woolly aphis, 5:160.
 woolly plant lice, 1:43; 10:494.
Xyleborus dispar (syn. *pyri*), 4:203.
 zebra caterpillar, 10:492.
 Remedies and preventives for insect depredations;
 acetate of copper, 9:420.
 acid and lime wash, 9:365, 366.
 air circulating beneath hay stacks, 11:151.
 air slacked lime, 4:198; 11:181; 12:252, 300, 352, 353.
 alkaline washes or solutions, 6:146; 7:344.
 alum water, 1:59; for repelling roaches, 1:65.
 ammonia, soapsuds and slacked lime for millepedes, 12:300.
 ammoniacal liquid, 1:59; 4:194; 5:158.
 animal secretions, 1:75.
 arsenate of lead, 12:252.
 arsenites, spraying with, 11:195, 279; 12:213, 214, 252, 263, 266; 13:370³.
 ashes, 1:177; 4:156, 198; 5:301; 6:182; 10:494.
 ashes and saltpeter, 2:28.
 ashes and sulfur, 5:315.
 attracting to lamps and fires, 1:58, 148; 4:190.
 autumn plowing, 5:313.
 avoiding infested manure, 11:276.
 azotic gas, 2:110.
 Babbitt's continental washing powder, 9:434.
 bagging, 2:49, 229; 6:121, 179, 185.
 baiting or attracting to various substances, 1:58, 64, 63; 6:121, 151; 183; 7:363; 8:243; 9:364; 10:449; 11:114, 276, 281; 12:302, 349; 13:369³.
 balloon hopperdozer collecting, 7:338.
 bands of chalk, cloth, ink, tar, tin, etc., on trees, 2:8, 9, 27; 3:95; 7:241; 9:424, 425; 10:367; 12:213, 356; 13:364⁴, 365³.
 barium, sulfo-carbonate of, 2:22.

Remedies and preventives for insect depredations (*cont'd*)

- barking trees, 2:55; 4:195; 12:247, 248.
 barn yard manure, 4:194.
 barricades against migration, 1:58.
 beans for cucumber beetle, 5:159; 10:414.
 beating from foliage, 2:18, 178; 225; 4:190, 199; 5:231.
 beating into kerosene, or kerosene water, 1:269; 6:136, 170, 176, 198, 200; 8:201.
 benzine, 2:35.
 for *Atropos divinatoria*, 2:199.
 carpet beetles, 1:59; 2:47, 226, 232; 5:314; 7:364; 9:304, 305.
 leather beetle, 4:89.
 mites, 6:161.
 birds, protection of, 1:61.
 value of, 2:7, 8, 189, 224.
 bisulfid of carbon for;
 American meal worm, 9:308, 442.
 Angoumois moth, 10:383-84, 485.
 ants, 10:502; 11:113, 114, 116, 273, 282.
 aphis, woolly, 13:367^a.
 bean or pea weevil, 5:300; 6:172; 7:276-77, 367; 9:439; 11:276; 12:355; 13:364^s.
 cabbage fly, 5:266.
 chestnut weevils, 12:272.
 grain moth, 10:383-84, 485.
 leather beetle, 4:90.
 mites, 6:170; 10:450.
 peach root aphis, 2:21-22; 5:315.
 root insects, 2:34-35.
 rose bug, 2:65.
 squash borer, 2:64; 5:313.
 striped cucumber beetle, 9:363.
 weevils in grain, 7:365; 8:278; 9:443, 494; 13:364^s;
 wire worms, 13:367^s.
 Zeuzera pyrina, 9:427.
 black walnut tree for cucumber beetle, 10:413, 414.
 blue vitriol water, 1:59.
 boiling water for millepeds, 12:300.
 bone dust, 9:363.
 borax or borax and sugar, 1:65; 11:114.
 bordeaux mixture, 9:420; 10:459; 11:273.
 bottle trap, 2:33.

Remedies and preventives for insect depredations (*cont'd*)

- boxing for elm leaf beetle, 2:228; 5:314.
 bran and arsenic mash, 2:197.
 breaking up hibernating quarters or breeding grounds, 7:332; 8:201; 13:365^a.
 brimstone burned, 6:161.
 brine, 1:190; 2:200; 5:156.
 brine lime wash, 7:332.
 brushing bark with stiff brush, 2:187, 230, 232; 12:298.
 Buchan's carbolic soap, 11:275.
 buckwheat crop, 5:310, 317; 8:197, 283; 12:347.
 "bug-catcher," 11:188.
 burdock decoction or infusion, 4:194; 5:158; 9:362, 484, 486.
 burning, 5:304, 322; 8:210.
 for apple leaf *Bucculatrix*, 5:317.
 bag worm, 4:204.
 bark borers, 2:55; 7:361.
 chinch bug, 13:369^a.
 currant stem girdler, 8:166.
 flower cricket, 5:310.
 Fuller's rose beetle, 4:193.
 gall insects, 5:308.
 gypsy moth, 9:423, 424.
 larch saw fly, 7:367.
 locust tree borer, 7:363.
 maple tree pruner, 9:361.
 oak pruner, 5:154; 12:354.
 peach root aphis, 2:21; 4:118, 195.
 pear blight beetle, 5:318.
 plant bug, tarnished, 13:357^a.
 raspberry gouty gall beetle, 6:124.
 scale insects, 2:230; 4:118; 6:144; 11:275.
 tent caterpillar, 9:444.
 Tischeria apple leaf miner, 9:445.
 two marked tree hopper, 4:203.
 burning garden refuse, 1:58, 269, 270, 279; 2:167; 3:107; 4:200; 7:353, 365; 8:213; 9:316, 441; 11:162; 13:357^a.
 grass to destroy chinch bug, 2:161, 163, 223; 11:199; 13:369^a; to destroy vagabond *Crambus*, 1:148.
 infested plants or wood, 4:77, 107, 190; 12:242, 247.
 straw to destroy canker worm, 2:9, 225; 5:314;

Remedies and preventives for insect depredations (*cont'd*)

burning straw to destroy joint worm, 4:33; 5:315; for striped blister beetle, 6:133.
 stubble, 1:58, 253; 7:339.
 vines for stalk borer, 2:226.
 burying in sand and covering with cloth, 12:323.
 camphor, 1:64, 74; 2:35; 5:300; 9:305.
 canker worm trap, 1:64.
 capture in insect nests, 2:93.
 carbolated lime, 9:420.
 carbolic acid, 1:65; 2:25, 26, 65, 66, 232; 11:114; 4:191; 9:418.
 for bark borers, 9:428.
 carpet beetle, 5:314; 7:357.
 cheese mite, 13:365².
 cucumber beetle, 9:363.
 maple tree scale insect, 6:146.
 mites in meat, 3:131; 5:293.
 quince tree borer, 8:280.
 scale insects, 6:146; 8:216; 9:441.
 carbolic acid with oils, 9:442.
 carbolic acid and paris green wash, 8:184; 10:484; 12:247.
 carbolic acid and soap wash, 1:59; 4:107, 119, 195; 11:280, 281.
 carbolic wash, 2:25, 27; 4:107; 8:183, 280.
 Bateham's, 6:154.
 carbolized paper or plaster, 2:232; 7:346.
 carbonate of copper solution, 9:417.
 carbonate of lime, 9:420.
 carbonic acid gas, 2:110.
 castile soap, 9:444.
 caustic potash, 9:444.
 cayenne pepper, 2:34.
 cedar shavings for woolens, 1:64.
 cessation from planting, 6:172, 185.
 chalk line for red ants, 1:65; 11:114, 281.
 chickens for flea beetles, 1:61; 5:301.
 children collecting, 8:243.
 chloroform, 6:129; 12:355.
 cleanliness, 12:234; 13:365¹.
 coal ashes, 7:344.
 coal oil, 8:241, 279.
 coal oil refuse, 2:27.
 coal soot, 9:363.
 coal tar, 2:65, 66, 67, 68; 4:191; 5:155, 301; 8:256.
 coal tar distillates, 1:75.
 Cocculus indicus berries, 9:352.

Remedies and preventives for insect depredations (*cont'd*)

cold water, 7:285, 344, 360.
 collecting and destroying eggs, 8:122, 283; 9:437, 441, 444; 11:188.
 compacting or stirring soil, 12:348.
 concentrated lye, 6:144.
 copper compounds, 9:463.
 copper solution, 9:369.
 copperas, 8:200.
 copperas water, 1:59; 2:67; 8:239.
 corn meal, 9:444.
 corn or bran mash, 12:354.
 corrosive sublimate, 2:17; for bed bugs, 1:62.
 cotton bands on tree trunks, 1:64; 2:86.
 counterodorants, 2:228; 5:313, 319, 322.
 cow dung, 4:194; 5:159.
 creosote, 2:35; 4:195; 5:314; 9:434.
 cresylic acid, 2:35.
 cresylic ointment for screw worm, 1:62.
 crushing, 5:206; 12:355.
 crushing eggs, 5:320; 8:216, 278; 9:316, 441; 12:349.
 crushing larvae, 1:57; 2:231; 3:93; 5:209, 215, 307, 309; 7:363, 364, 379; 10:488; 12:222, 352, 353.
 curculio catcher, 7:294.
 cutting off infested twigs, 1:57.
 cutting out larvae, 1:58; 2:5, 58, 62, 64; 3:105; 6:151, 169, 171; 7:363; 8:182; 12:242; 13:366³.
 cyanide of potassium, 2:34; 5:314; 9:352.
 decoy trees and destroying fruit, 12:348.
 deep plowing, 1:58.
 dendrolene for borers, 12:356.
 destroying caterpillar nests, 5:304.
 destroying eggs, 2:85; 5:304; 6:169, 181; 8:266; 10:444; 11:133, 282; 12:234.
 destroying grain moth in granaries, 10:384.
 destroying hibernating insects, 9:441; 12:211.
 destroying infested fruit, 1:58; 2:12; 10:499; 12:271, 348; infested tips, 11:172; 13:377³.
 destroying larvae, 10:373; 11:133.
 destroying pupae, 10:373, 499; 12:347.

Remedies and preventives for insect depredations (*cont'd*)

destroying the English sparrow, 1:61; 2:83.
 destroying web nests, 1:57.
 digging out, 5:156, 271, 312, 313, 319, 320.
 digging up cut worms, 1:58; 8:240; 12:353.
 ditching for migrating insects, 1:58; 12:213, 352, 353; 13:369.
 dragging the rope, 12:214.
 driving from food plants, 6:132.
 driving on tarred paper, 5:302.
 drowning, 6:150.
 ducks, 2:34; 11:274.
 dusting with plaster of paris, 6:132; 7:289; 12:212, 353.
 early cutting and stacking, 11:155.
 early threshing for grain moth, 10:384.
 employing fowls, 11:181.
 encouraging natural enemies, 12:212.
 exposing roots of hops for hop grub, 10:373.
 fallowing, 8:200.
 feeding by sheep, 4:12.
 feeding stock, 5:219.
 fencing out insects, 9:363.
 fish brine for scale insects, 1:60.
 fish manure, 1:75.
 fish oil, 1:301; 5:226; 6:167.
 fish oil soap, 8:213; 10:495.
 flour of sulfur, 6:161.
 fowls for garden insects, 1:61; 6:179; 8:252; 13:366.
 frames with netting cover, 2:64.
 fumigation with charcoal gas, 2:109; with sulfur, 2:18, 227; 5:314; 12:234, 303; 13:365; with tobacco, 8:255.
 fungus, 5:273.
 furrows plowed for army worm, 12:213, 352.
 gas lime, 1:149, 177; 2:21, 63, 162, 163, 229, 233; 3:114, 134; 4:194; 5:158, 160, 253, 313, 319; 8:197, 239; 10:448.
 gas tar, 5:163, 299, 314; 8:205.
 gas tarred paper, 4:199; beneath carpets, 1:64.
 gas water, 2:35.
 gasoline, 2:35, 200; 9:352; 11:280.
 gauze covered frames, 9:363.
 gold dust soap powder, 9:432.
 grafting trees to resistant varieties, 8:247.
 grape bagging, 2:32-33.

Remedies and preventives for insect depredations (*cont'd*)

ground bone dust, 7:368.
 ground pepper for woollens, 1:64.
 growth of immune crops, 8:200.
 guano, 5:158, 313.
 gypsum, 9:363.
 gypsum and kerosene, 2:29.
 hand picking, 2:16, 93, 101, 135, 144, 147, 178; 5:179, 183, 209, 233, 300, 321; 6:133, 177, 184; 7:246, 311, 379; 8:252; 9:316; 11:188, 281.
 hand picking eggs and larvae, 1:56; 2:93; 3:111; 4:59, 65, 76, 190, 193, 194.
 heat, 2:109, 137, 144; 4:90; 7:275.
 heavy gloves for mosquitoes, 12:323.
 heavy oil, 5:300.
 heavy rains, 7:332.
 hellebore, 2:35; 4:191, 194; 5:323; 6:166; 7:352; 8:274; 9:316, 336, 372, 431, 440; 10:484; 11:145; 12:302, 303, 311, 349; 13:368.
 hellebore solution, 4:194; 5:159.
 high culture, 1:63, 66.
 hop wash, 3:122; 8:209.
 hopperdozer collecting, 7:338; 10:444.
 hops, spent, for cabbage protection, 1:65.
 hot water, 1:59, 179, 198, 269, 288, 307, 317; 2:6, 21, 93, 199, 233; 5:183, 231, 287, 315; 6:172, 177, 184, 185; 7:241, 374; 9:316, 371-72, 441; 10:439; 12:264, 300, 350; 13:363, 367.
 housing corn in shuck, 10:384.
 hunting larvae with lantern, 1:58.
 hydrocyanic acid gas, 6:104; 9:352; 11:208, 230, 231.
 ice water, 4:191.
 inclosing in netting, 12:289.
 infested fruit destroyed, 8:248.
 infested shoots burned, 9:345.
 infusion of tobacco, 8:257.
 insect lime in bands on trees, 10:367.
 insectivorous birds, 9:349-51, 356, 357.
 jarring, 1:162; 2:12, 85, 101, 228; 7:289, 294; 8:125; 9:365; 11:188; 13:357.
 jarring on sheets, 4:201; 6:166; 10:410, 413, 432; 12:266, 272, 312.
 kainit, 11:116, 260, 273; 12:347, 352, 356.

Remedies and preventives for insect depredations (*cont'd*)

kerosene, 11:114; 13:332³; action of, 4:190, 191; 8:274; burning as sprayed, 9:425; soaking seed in, 8:200; wetted sheet with, 7:355.

for army worm, 12:214.

bark borers, 7:352; 9:366.

bean weevil, 7:276.

blister beetles, 11:281.

carpet beetles, 2:47.

elm leaf beetle, 11:279, 350.

harlequin cabbage bug, 11:280.

leather eating beetles, 4:92, 198; 9:304.

millepedes, 12:302, 349.

mites, 2:227; 6:161.

pea weevil, 5:300.

root insects, 2:34-35.

scale insects, 2:32; 6:144; 8:215, 216.

squash vine borer, 2:63.

"warbles," 6:115.

kerosene and gypsum, for squash bug, 2:29.

kerosene and lard, 6:158.

kerosene and sand, 2:16, 232.

kerosene and soap suds, 1:162.

kerosene and water, 2:147; 4:200; 5:321; 6:133, 136; 7:351; 8:252.

kerosene emulsion, formulas for, 2:36-37, 38; 4:191; 5:279; 6:144-45; 8:190, 209. for *Anomala marginata*, 10:413.

ants, 11:114, 116, 273.

aphids, 2:21, 187; 5:161, 256; 6:148, 167, 169; 7:318; 8:209, 212, 217; 9:369, 431-32; 10:428, 484; 11:276, 277; 13:363⁴, 367¹, 368⁷.

bugs, 2:147; 5:321; 9:316; 10:439.

cabbage aphids, 10:495.

cabbage maggot, 10:484.

cattle tick, 6:158.

cheese skipper, 12:234.

chinch bug, 2:233; 13:369⁴.

cow horn fly, 9:442; 13:365⁹.

cut worms, 8:190.

elm leaf beetle, 11:196; 12:264.

leaf miners, 9:375.

leaf hoppers, 5:302; 6:166; 8:287; 9:430.

lepidopterous larvae, 2:101; 5:262, 317; 11:145; 12:214.

Remedies and preventives for insect depredations (*cont'd*)

kerosene emulsion for millepedes, 12:302, 349.

mites, 10:459; 12:350; 13:365².

pear midge, 8:151.

pear *Psylla*, 8:220; 9:329.

"red spider," 5:288, 322.

rose bug, 8:201; 9:420.

scale insects, 2:22, 230, 232;

4:118, 195; 5:279, 313,

319; 6:144; 8:215, 280; 9:

373, 441; 11:205, 208, 275,

281; 12:298, 348; 13:368⁶.

striped cucumber beetle, 9:362.

striped flea beetle, 5:301.

two spotted tree hopper, 10:493.

white grubs, 9:353-54, 443; 10:500; 13:366⁴, 369⁵.

wire worms, 13:367³.

wood borers, 12:247, 355.

killing before egg laying time, 4:200.

killing the larvae, 8:205.

lady bird colonization, 1:61.

late fall plowing, 8:239.

late planting, 5:300.

late sowing for certain insects, 1:63; 6:17.

light in pan containing kerosene and water, 10:393.

lighted candle for fleas, 1:62.

lime, 2:10; 5:157, 158, 160, 163, 227, 229, 301, 305; 6:148, 179; 7:333, 352, 372; 9:336, 416, 418, 420, 434, 435, 441; 11:188, 273, 278; 12:212, 352, 354; 13:365³.

air slaked, 1:59, 148; 6:167; 7:289; 8:252, 253; 10:410, 484, 487; 11:116.

lime, salt and sulfur wash, 11:208.

lime wash, 5:163; 7:289, 332; 8:201.

lime water, 1:59; 5:307; 7:366; 11:274, 276; 12:347.

linen sheets, for woolens, 1:64.

linseed oil, 1:162; 4:119, 195.

Little's chemical fluid, 11:275.

local extermination for grain moth, 10:384.

london purple, 1:34, 166; 2:44, 65, 86, 123, 136, 223, 225, 227; 4:14, 191, 199, 201; 5:162, 200, 219, 240, 301, 304, 312, 313, 322; 7:339; 8:140, 150, 201, 274, 280, 286; 9:297, 372, 414-15, 416, 417, 420, 435; 11:133, 138, 188.

Remedies and preventives for insect depredations (*cont'd*)

lures for concentrating attack, 4:199.

lye solutions, 2:35; 5:163, 299, 320.

McDougall sheep dip, 6:114.

manures, 1:178; 9:363; 11:156.

maple syrup and london purple, 11:114.

mechanical coatings, 9:363.

mercurial ointment, 4:199; 6:115.

molasses and london purple for ants, 1:62.

molasses and red lead for roaches, 1:62.

molasses and vinegar, 4:76.

mounding around trees, 1:64; 2:6; 7:374; 8:185.

mulching of tobacco stems, 11:276.

muriate of potash, 9:418.

muslin or netting covering, 9:362; 12:323.

mustard crop, 5:310, 317; 8:198.

mustard water, 1:60; 12:347.

naptha, 2:35.

napthaline, 1:65; 2:35, 65, 66; 6:169; 11:114.

netting, 1:232; 2:58, 64; 5:313; 13:369^o.

new crops remote from old, 11:156.

night collections, 8:190.

night soil, 4:194; 5:159; 10:484.

nitrate of potash, 5:157.

nitrate of soda, 7:366; 9:372, 418, 441.

offensive odors, 9:363.

oil application, 1:190; 7:333.

oil of tar, 2:35; 6:114; 12:323.

oil of turpentine, 6:150.

painting body as a protection from mosquitoes, 12:323.

paper bags, 1:64; 2:32, 33; 8:286.

paper cylinders, etc., 1:64; 8:241.

paraffin oil, 1:46, 179.

parasitized insects, distribution of, 1:61.

paris green, 1:25-34, 166; 2:3, 9, 15, 67, 85, 123, 131, 136, 146, 223, 225, 227, 228, 229; 3:95; 4:103, 191, 199, 201; 5:155, 162, 262, 301, 305, 317, 319, 320, 321; 6:132; 8:140, 218, 241, 244, 248, 274, 280; 9:297, 336, 341, 343, 345, 372, 374, 415-16, 417, 423, 428, 432-33, 434, 443; 10:413, 488; 11:119, 133, 138, 145, 184, 188; 12:213, 214, 252, 263, 311, 350, 353.

Remedies and preventives for insect depredations (*cont'd*)

paris green and flour, 7:351.

paris green and plaster, 13:364⁷, 365⁴, 366².

pasturing fields in autumn, 11:156.

paving or flagging under trees, 7:290.

pennyroyal for red ants, 1:65.

perchlorid of mercury, 2:187.

peroxid of silicates, 9:363.

persian insect powder, 9:352; 13:370⁴.

petroleum, 2:35.

phosphates, 9:418.

picking infested fruit or leaves, 8:143, 150; 10:459; 12:350.

pig manure or sty drainage, 1:75; 5:301.

pigs rooting, or eating infested fruit, 6:176, 183; 7:290.

planting beans with cucumbers, 9:363.

planting fruit trees over water, 7:290.

plants for decoys, 2:64.

plaster and paris green, 12:213.

plaster, land, 1:231, 148; 5:301, 305; 7:346, 333; 12:352, 353, 354.

plowing, 1:149; 2:63, 161, 163, 225, 233; 4:34; 5:156, 206, 312; 6:176, 183; 7:339; 10:444, 488; 12:352, 356.

poison in blossoms visited, 8:243.

poisoned baits, 5:206; 8:21; 12:302, 347, 353, 354, 356; 13:366⁵, 366⁸.

poisoned strips, 12:213, 353.

poisoning first brood on leaves, 11:138.

poisonous coatings, 9:363.

potash or potash salts, 5:163, 299; 9:418; 10:448.

potash wash, 11:230.

potassium, sulfo-carbonate of, 2:22.

poultry feeding, 2:33, 34; 4:203.

powdered charcoal, 1:177.

preserving underbrush for shade, 12:242.

preventing egg deposit, 8:203.

printers' ink, 1:64; 5:259.

probing burrows for grubs, 1:58; 5:320; 10:488.

propagation of contagious diseases, 7:341.

proper cultivation, 12:211.

pruning and burning infested canes, 10:406.

pupae destroyed, 8:248.

Remedies and preventives for insect depredations (*cont'd*)

pyrethrum, 2:26, 35, 93, 201, 227; 4:61, 101, 134, 168, 191; 5:209, 301, 321; 6:136, 148, 161, 170, 184; 7:236, 290; 8:212, 213, 274, 282; 9:312, 314, 363, 371, 418, 420, 441, 442; 10:404, 496; 11:114, 151; 12:302, 315, 349, 356.
 pyrethrum water, 4:201; 5:305; 6:167; 7:315, 344, 360; 10:393, 404; 11:247; 12:347.
 pyroligneous acid, 2:35.
 quassia infusion, 1:59, 322; 9:420; 12:347.
 quassia water and soap, 4:198, 199; 5:288, 307.
 rancid fish oil for mosquitoes, 12:323.
 raupenleim, insect lime, 9:425.
 rearing parasites, 10:371.
 red pepper, 2:17.
 reindeer cream for mosquitoes, 12:323.
 removal of infested plants, 11:259.
 removal of outer bark of trees, 9:428-29; 10:484.
 removal of seed stems, 11:181.
 repellant washes, 4:203.
 resin wash, 11:208.
 resistant varieties, 6:176.
 rhigolene, 2:35.
 road dust, 1:60, 148; 2:27; 4:156, 198, 199; 5:305, 320; 6:166; 8:212; 9:336.
 rolling the ground, 1:148; 2:161, 233; 5:206, 264, 312.
 roofing paper, gas tarred, 2:25, 48, 226, 232.
 rotation of crops, 1:63; 2:63; 5:315, 319.
 russia leather scraps, for woollens, 1:64.
 sacks as a protection from mosquitoes, 12:323.
 salt, 2:224; 5:256, 315, 317; 8:200, 239, 282; 10:448; 11:151, 274; 12:351, 352.
 saltpeter, 2:28, 65; 5:157, 315; 9:363.
 sand, 4:156.
 sassafras bark, to repel red ants, 1:65.
 Saunders wash for borers, 12:356.
 scraping the bark, 1:162; 2:230; 4:119, 195; 5:309; 11:278.
 selection of land not surrounded by favorable breeding places, 13:357.
 selection of seed, 1:63.

Remedies and preventives for insect depredations (*cont'd*)

setting out no young trees just before advent of Cicadas, 12:289.
 shaker peach tree borer wash, 8:185.
 shaking from foliage, 5:172, 183, 262, 314, 317, 320, 321.
 shaking into vessels of kerosene and water, 11:281.
 sheep in orchards, 1:60; 2:123.
 sheep dips, 1:62; 5:226.
 sheep wash for ticks, 1:62.
 shell lime, 4:194; 5:158.
 shelter for nocturnal feeders, 1:63.
 skunk, protection of, for hop grub, 1:61; 10:373.
 sludge oil soap, 8:201; 9:410, 418.
 slug shot, 9:363.
 smoke for mosquitoes, 12:323.
 snuff water or snuff, 2:35; 5:301.
 soaking in kerosene, 8:200.
 soap, 1:59, 304, 319; 13:367.
 soap and carbolic acid wash, 5:301; 6:169; 7:363; 8:280; 10:493; 12:242.
 soap and sulfur, 5:288, 322.
 soap suds, 1:162, 179, 194, 301, 302; 2:63, 199; 4:119, 198, 199; 6:144, 148; 5:161, 256, 275, 287, 302; 7:372; 8:216; 9:345, 369, 370, 441; 10:428; 11:277, 279.
 soap wash, 4:119; 5:160, 270, 279, 317, 320.
 soft soap, 1:64; 5:163, 270; 8:186, 190, 217, 281, 285, 286.
 soft soap, carbolic acid and paris green for borers, 12:353, 355, 356.
 soft soap and soda, 13:366.
 soluble phenyle, 2:21, 65; 5:226, 315; 6:169.
 soot, 1:60, 178; 2:35; 4:194; 5:159, 253, 301, 307; 10:484; 11:276; 12:302, 349.
 spices, for woollens, 1:64.
 spirits of turpentine, 1:65; 4:19.
 spreading infested manure, 8:194.
 starvation, 5:310, 316; 8:197, 200, 242.
 steam for millepeds, 12:300.
 storing in darkness, 12:348.
 stream of cold water, 12:356.
 strong odors, 7:289.
 sublimating sulfur, 10:450.
 submergence, 4:195.
 sulfate of copper, 8:151; 9:434.

Remedies and preventives for insect depredations (*cont'd*)

sulfo-carbonates of potassium, 2:22.

sulfo-cyanid of potassium, 2:35.

sulfur, 2:18, 32, 227; 5:301; 6:114; 7:365; 9:352, 442; 10:450, 458, 486; plugging trees with, 10:495.

sulfur, lard and kerosene for poultry, 1:62.

sulfur fumes, 4:201.

sulfur sifter for bird mites, 1:62.

sulfur soap and water, 10:458.

sulfuret of lime and soft soap in water, 10:458.

sulfuric acid water, 1:59.

sulfurous acid, 2:35.

summer washes, 11:230.

sweetened sponge for ants, 1:62.

sweetened water in bottles, 7:289.

swine, for white grubs, etc., 1:61; 2:224, 225.

tallow, 6:175.

tallow and carbolic acid, 5:226, 13:365^o.

tansy decoction, 1:65; 2:225; 4:194; 5:159; 6:169; 10:484.

tar, 9:442, 444; for mosquitoes, 12:323.

tar, coal, and lard, 13:365^o.tar, pine, and grease, 13:365^o.

tar coating seed, 8:200.

tar water, 1:65; 2:35, 65, 66; 301; 6:169; 7:290.

tarred bands around trees, etc., 1:64; 2:224; 3:95; 5:259, 313, 318.

tarred boards, 12:213.

tarred paper, 4:199; 9:431; 10:484.

tarring the grounds for migrants, 1:58.

tartar emetic and sugar, 11:114.

thick, close coverings, 12:234.

toads in garden, domestication of, 1:61; 5:301.

tobacco, 4:191, 199; 5:160, 161; 8:212, 213, 217, 251, 255, 274, 281, 285; 9:345, 369, 370, 371, 372, 418, 419, 420, 441, 442; 10:484.

tobacco dust, 1:65, 190; 4:194; 10:495; 13:363^o, 365^o, 367^o.

tobacco smoke, 1:60, 319, 320.

tobacco water, 1:59, 190, 198, 302, 309; 2:29, 31, 35; 3:120; 4:103; 5:256, 301, 302, 303; 6:

148, 166, 167; 7:344, 372; 10:428, 484; 11:279; 12:347, 350, 356; 13:367^o, 368^o, 368^o, 368^o.trapping, 1:62; 2:144; 3:111; 6:169; 7:366; 8:206, 242, 278; 9:316, 441; 10:448; 11:276, 282; 12:302; 13:370^o.

tree beating and jarring, 1:57.

trees felled for decoy, 2:55.

trenching, 5:200; 13:369^o.

turpentine, 9:352, 363; 10:494.

tympan, printers', 2:226.

varnishing body as a protection from mosquitoes, 12:323.

veils and nets for mosquitoes, 12:323.

vinegar and molasses trap, 2:33.

wash for preserving herbaria, 1:65.

washing with whey or lye, 12:234.

watching for indications, 12:212.

whale oil and carbolic acid, 8:194.

whale oil soap, 1:59, 65; 2:32, 37, 187, 230; 4:103; 5:163, 313; 6:114, 144, 166; 7:290, 318; 8:215, 279; 9:370, 440; 10:494; 11:210, 229, 274, 275, 276, 277, 281; 12:298, 350, 356; 13:363^o, 368^o, 368^o.

wheat bran mash for army worm, 12:213, 353.

white arsenic and lime, 9:434-35.

white wash, 8:182; 12:303, 353.

winter washes, 11:228-29.

wire netting tree protector, 8:185.

wire screens, 12:234, 348.

wood ashes, 1:60; 8:182, 183; 9:372.

working the ground, 4:15; 5:259.

worming, 8:243.

wrapping tree trunks, 7:313.

X. O. dust, 9:418, 420; 13:365^o.remotepunctata, Calandra, *see* C. granaria.

Renia discoloralis, 10:482.

reniformis, Helotropha, 10:482.

renigera, Mamestra, 10:482.

Rennie, James, *Insect architecture* cited, 11:241.

repanda, Cicindela, 7:219; 10:377; 12:209.

repentis, Agrotis, *see* Carneades messoria.Reseda, *see* Mignonette.

- Resplendent shield bearer (*Aspidisca splendoriferella*), 1:166, 330; 11:159, 267.
 retardata, *Acronycta* (syn. *A. dissecta*), 10:482.
 reticulatana, *Cenopis*, 10:483.
 reticulatus, *Cossus*, see *Prionoxystus robiniae*.
 retinervis, *Microcentrum*, 4:80; 5:323, 326; 11:271, 288; 13:365⁷; 14:341², 396⁷.
 retusa, *Anthophora*, 10:386.
 Reuter, Enzio, cited, 11:166.
 reversalis, *Botis*, see *Mecyna*.
 Mecyna, see *Mecyna reversalis*.
Revue d'Entomologie cited, 7:256.
 Reynolds, James, insects from, 12:359.
Rhagoletis pomonella, see *Trypeta*.
Rhaphidodemas titea (syn. *Phigalia cinctaria*), 1:329; 11:266.
Rheum rhaponticum, see *Rhubarb*.
Rhinoceros beetle, 5:228, 321; 7:246-55; 9:342, 440; 11:274; 14:341³, 374⁵, 387⁷.
Rhinosia pometella, see *Ypsolophus pometellus*.
Rhizobiinae, 4:196.
Rhizoglyphus, 10:451, 452, 486.
 phylloxerae, 10:451, 487; 14:377².
 rostriserratus, 10:449.
Rhizophagus feeding on *Tribolium*, 2:139.
 Rhode Island society for the encouragement of domestic industry, *Transactions* cited, 7:255.
Rhodites, 11:281; 14:390².
Rhogas terminalis, 12:192, 211.
rhois, *Blepharida*, 5:271.
 Brysocrypta, see *Pemphigus*.
 Melaphis, see *Pemphigus*.
 Pemphigus, see *Pemphigus rhois*.
Rhopalocera, dates of occurrence, 9:456.
Rhopalosiphum berberidis (syn. *Aphis*), 9:405, 411, 412.
 solani (syn. *Megoura*), 3:121, 149; 14:345⁵, 345⁶.
 species, 13:363⁴; 14:400⁴.
Rhubarb, insects injurious to;
 Anthrenus scrophulariae, 11:172-73; 13:359⁴.
 Hydroecia nitela (*Gortyna*), 1:112; 8:191.
 Lixus concavus, 1:112.
 Sitodrepa panicea, 4:92.
 Spilosoma virginica, 7:304.
Rhus glabra, see *Sumac*, smooth.
Rhus typhina, see *Sumac*, stag-horn.
Rhynchagrotis anchocelioides (syn. *Agrotis cupida*), 1:58; 7:375; 14:321⁹.
 brunneicollis (syn. *Agrotis*), 7:375; 14:321⁹.
 placida (syn. *Agrotis*), 11:265.
Rhyparochromus devastator, see *Blissus leucopterus*.
 leucopterus, see *Blissus*.
Rhyssa atrata, see *Thalessa*.
 lunator, see *Thalessa*.
 persuasoria, 8:108, 165, 166.
ribearia, *Abraxas*, see *Diastictis*.
 Diastictis (syn. *Abraxas*, *Eufitchia*), 1:299, 306; 9:456; 12:310-11, 360; 13:372⁴; 14:313⁷, 339⁴.
 Eufitchia, see *Diastictis*.
Ribes aureum, see *Currant*, Missouri.
 nigrum, see *Currant*, black.
ribesii, *Nematus*, see *Pteronus*.
 Pteronus, see *Pteronus ribesii*.
ribis, *Aphis*, see *Myzus*.
 Myzus (syn. *Aphis*), 1:272; 3:145; 9:370-71; 10:498; 11:275, 276; 13:363⁵; 14:360¹, 383⁸, 388⁸, 400⁴.
ricara, *Pyrgus*, see *P. caespitalis*.
 Rice, A. C., insects from, 9:463.
 Rice, Calandra oryzae in, 13:374³.
 Indian, *Sphenophorus sculptilis* on, 1:259.
 Rice chaff, *Tribolium ferrugineum* in, 8:299.
 Rice plants, Thrips on, 11:249.
 Rice weevil, 10:511.
 Rich, G. A., insects from, 10:512.
 Richardson, C. A., insects from, 4:208.
 Richardson, M. T., insects from, 12:362.
 Richmond, A. G., insects from, 4:208; 5:324.
 Rickard, A., insects from, 10:512.
Ricinus communis, see *Castor oil plant*.
 Rider, C. E., insects from, 10:515.
ridingsii, *Bombus*, 11:104.
 Riggs, F. J., insects from, 12:359, 361, 362, 363; 13:372⁸, 373², 373⁹, 374⁴.
rigida, *Cecidomyia* (syn. *C. salicis*), 1:297.
 Riley, C. V., cited, 1:99, 116, 127, 149, 157, 163, 172, 191, 221, 227, 233, 247, 254, 264, 281; 2:89, 102, 126, 132, 142, 149; 4:21, 28, 35, 51, 80, 93, 103, 114, 115, 151, 156, 158; 5:184, 200, 227, 234; 7:225, 247, 255, 279, 296, 321, 324; 8:141, 155, 160; 9:300, 307, 309, 317, 330, 457;

- 10:378, 388, 433, 453, 478; 11:109, 145, 152, 177, 181, 194, 198, 222, 232, 241, 248; 12:183, 191, 184, 214, 218, 230, 235, 248, 254, 264, 268, 272; 13:343³; quoted, 11:129, 130, 131; 12:216, 279, 322; 13:356⁴; referred to, 11:113, 127, 131; 12:181, 182, 203, 221, 222, 233, 237, 260, 267, 274, 276, 277, 312; 13:351¹, 351³, 352², 354³, 365¹; *Insects of Missouri. General index and supplement* cited, 1:110, 181, 199; 2:89; 7:225, 255; *Insects of Missouri. Report* cited, 1:81, 110, 116, 157, 181, 184, 199, 221, 227, 254, 264; 2:57, 68, 89, 126, 132, 149, 168, 188; 4:20, 51, 63, 80, 114, 115, 153; 5:180, 184, 200, 207, 232; 7:225, 255, 279, 288; 8:129, 160; 9:330, 457; 11:109, 126, 129, 145, 248; 12:183, 218, 230, 235, 268, 283; 13:351⁸; 14:313³; *Mulberry silk worm*, review of, 14:346⁶; *Potato pests* cited, 1:110; *Report on the cotton worm and boll worm* (4th rep't U. S. ent. comm.) cited, 4:158; 10:405; 11:241; 12:191.
- Riley, C. V. and Howard, L. O., cited, 7:247, 256, 288, 297, 321, 324; 8:129, 133, 141; 9:300, 301, 309, 318; 10:378, 388, 405, 411, 417, 433, 454, 478; 11:110, 134, 146, 152, 177, 232, 242, 250; 12:183, 192, 218, 230, 248, 268, 273, 290, 293; 13:344².
- Riley, C. V. and Marlatt, C. L., cited, 7:321.
- Riley, C. V. and Monell, J., cited, 5:246.
- rileyana, *Heteropacha*, 2:40.
- rileyi, *Chalia*, 11:264.
- Schizoneura, 3:125; 13:374⁶.
- rimosa, *Cicada* (syn. *Tibicen*, *C. noveboracensis*), 11:270.
- Tibicen, *see* *Cicada*.
- rimosalis, *Pionea*, *see* *Evergestis*.
- Evergestis (syn. *Pionea*), 2:93.
- Risley, C. C., insects from, 10:512.
- Rivellia viridulans, 2:122.
- Riverside natural history, *see* *Standard natural history*.
- Rivula propinqualis, 4:206.
- rivulosa, *Lygranthoecia*, *see* *Schinia marginata*.
- Roaches, 1:36; 4:132; 7:325.
- Robber flies, 11:117.
- Robbins, S. J., insects from, 10:517; on 12-spotted asparagus beetle, 12:249, 250.
- Robert, Eugène, quoted, 12:248.
- Roberts, C. H., insects from, 13:371¹.
- Roberts, J. T., insects from, 10:509.
- Robertson, Charles, determinations by, 11:103.
- Robin feeding on insects, 2:8, 82, 113; 5:198; 9:356; 12:209, 288.
- Robineau-Desvoidy, A. J. B., *Essai sur les Myodiales* cited, 5:220; *Histoire naturelle des Diptères des Environs de Paris* cited, 9:309.
- Robinia, insects injurious to; Euparthenos nubilus (syn. Parthenos), 3:136.
- Odontota dorsalis, 12:264, 265, 266.
- Robinia pseudacacia, *see* Locust tree.
- robiniae, Clytus, *see* Cyllene.
- Cossus, *see* Prionoxystus.
- Cyllene (syn. Clytus), 1:317; 2:224; 7:363; 8:175, 176; 10:504, 517; 13:360⁶; 14:366⁶, 386⁴.
- Prionoxystus (syn. Cossus, *C. crepera*, *C. plagiatus*, *C. reticulatus*, *Xyleutes*), 2:216; 7:375; 9:426, 450; 11:265; 14:322¹.
- Spermophagus, 7:270.
- Xyleutes, *see* Prionoxystus.
- robiniella, *Anacampsis*, *see* *Gelechia*.
- Gelechia (syn. *Anacampsis*), 1:309.
- Lithocolletis (syn. *Argyromiges pseudacaciella*), 1:309.
- Robinson, J. F., insects from, 12:360.
- Robinson, W. S., insects from, 5:326.
- robustus, *Gordius*, 4:125.
- Sphenophorus, 1:261, 262.
- Rochester democrat and chronicle quoted, 12:197.
- Roestelia aurantiaca (aecidial form of *Gymnosporangium clavipes*), 2:12; 6:181.
- rogationis, *Plusia* (syn. *P. dyaus*), 2:94-97, 228; 14:333¹, 342⁵.
- Rogers, R. V., cited, 12:238.
- Rolfs, P. H., cited, 11:233.
- Rome sentinel, abstract from, 12:352; cited, 12:190; 14:393⁷; quoted, 12:197.
- Rondani, Camillo, *Dipterologiae Italicae Prodomus* cited, 5:220.
- Root fly (*Anthomyia radicum*), 1:191-94, 196; 14:335⁹.
- Root webworm, 4:14.
- Rosa, *see* Rose.
- rosaceana, *Cacoecia*, 1:329; 5:213; 6:187; 7:355; 9:418; 11:121, 266; 12:312, 356, 360; 14:395², 399⁴.
- rosae, *Anomia*, *see* *Typhlocyba*.
- Aulacaspis (syn. *Diaspis*), 7:384.

- rosae, Diaspis, *see* Aulacaspis.
 Empoa, *see* Typhlocyba.
 Monostegia (syn. Selandria), 1:42; 7:344, 362; 10:499; 14:366⁴, 384².
 Psila, 1:46, 49.
 Selandria, *see* Monostegia.
 Tettigonia, *see* Typhlocyba.
 Typhlocyba (syn. Anomia, Empoa, Tettigonia), 2:31; 6:166; 7:345, 362; 8:256; 11:271; 12:355, 356; 14:346⁵, 359⁶, 366³, 394².
 rosana, Cacoecia, 10:516; 11:266.
 Rose, J. F., insects from, 8:296, 299; 9:461; 10:510, 515, 518.
 Rose, insects injurious to;
 Anomala marginata, 10:441.
 Aphids, 5:162.
 Aramigus fulleri, 2:142; 4:193.
 Aspidiotus perniciosus, 11:207, 224.
 Aulacaspis rosae (syn. Diaspis), 7:384.
 Bibio albipennis, 2:115.
 Cacoecia argyrospila, 7:356.
 rosaceana, 6:187; 9:418.
 Chauliognathus pennsylvanicus, 9:344, 463.
 Cladius pectinicornis, 10:499.
 Empythus cinctus, 10:499.
 Homoptera lunata, 4:57-59; 5:315; 14:338⁷.
 Icerya purchasi, 4:187.
 Lygus pratensis, 13:352⁶.
 Macroductylus subspinosus, 1:229; 6:175; 8:201; 9:419-20.
 Monostegia rosae, 7:344, 362; 10:499.
 Notolophus leucostigma (syn. Orgyia), 2:69, 77.
 Otiorynchus ovatus, 10:417.
 Parasa chloris, 9:443; 14:375⁹.
 Penthina nimbatana, 2:228; 5:214; 6:139; 14:332⁹.
 Poecilocapsus lineatus, 1:278.
 Poecilosoma candidatum, 13:336⁵.
 Pulvinaria innumerabilis, 6:143.
 Tetranychus telarius, 9:432.
 Typhlocyba rosae (syn. Tettigonia), 2:31; 6:166; 7:362; 8:256; 12:355.
 white grubs, 9:354.
 Rose aphid, 5:162.
 Rose beetle (Macroductylus), bibliography, 1:227-28; characteristics of appearance, 1:231; classificatory and descriptive, 1:78, 228-29; detailed account, 1:227-32; food plants, 1:229-30; natural history, 1:231; 7:346-47; ravages, 1:230-31, 317; 2:225; 4:142, 198, 199; 5:154; 6:166; 8:125; 9:419-20; references, 1:178, 234, 303, 307, 316; 7:337; 8:112; 9:441, 491, 497, 511; 11:173, 268; 12:351, 362; 14:325⁴, 331⁵, 336¹, 339², 341¹, 349⁵, 370⁸, 382⁵, 385¹, 392⁶; remedies, 1:45, 57; 8:200-2, 282; 9:418; 10:501.
 Fuller's (Aramigus), 2:142-44; 4:193; 5:154, 311, 325; 14:337¹, 342⁷, 347⁴.
 Rose bug, *see* Rose beetle.
 Rose chafer, green (Cetonia aurata), 1:237.
 Rose leaf hopper (Typhlocyba rosae), 2:31; 7:345, 362; 8:116, 256; 11:271; 12:355-56; 14:359⁶, 366³, 394³; 14:343⁶.
 Rose leaf tyer (Penthina nimbatana), 5:213-15; 6:139; 14:362⁷.
 Rose saw fly, 7:354.
 Rose slug (Monostegia rosae), 3:88; 7:344, 362; 10:499; 14:366³, 384³.
 Rose twig borer, 1:57.
 Rose worm, bristly, 10:499; 14:384⁴.
 curled, 10:499; 14:384⁴.
 rosea, Odontota, *see* O. nervosa.
 rostroserratus, Rhizoglyphus, 10:449; 14:377⁶.
 Tyroglyphus, 10:486.
 rotundipennis, Sciara, 10:394.
 rotundifolia, Amblycorypha, 7:384.
 Roûast, Georges, *Catalogue des chenilles Européennes connues* referred to, 11:149.
 Rove beetles (Staphylinidae), 1:187, 189.
 Royal Gardens, *Bulletin of miscellaneous information* cited, 11:241.
 Royal society of Canada, *Transactions* cited, 13:338⁵, 341¹.
 Royce, T. C., insects from, 12:263.
 rubellus, Lixus, 1:260.
 rubens, Tribolium, *see* T. ferrugineum.
 rubeolans, Nephelodes, 1:107.
 rubi, Lasioptera, of Europe, 4:66.
 Monophadnoides (syn. Selandria), 1:42.
 Selandria, *see* Monophadnoides.
 rubicunda, Anisota (syn. Dryocampa), 3:91; 5:197, 198, 200; 9:295, 422, 455; 10:507; 14:309⁶, 313³.
 Dryocampa, *see* Anisota.
 rubicundula, Diplax, 7:220.
 rubidana, Galasa (syn. Cordylopeza nigrinodis), 10:483.

- rubivora, *Aplodes*, see *Synchlora glaucaria*.
Phorbia, see *Raspberry cane maggot*.
Synchlora, see *S. glaucaria*.
rubivoraria, *Synchlora*, see *S. glaucaria*.
rubra, *Odontota*, 11:269.
rubrocinctus, *Cimex*, see *Largus succinctus*.
Rubus canadensis (dew berry), mined by *Tischeria malifoliella*, 11:162.
 strigosus, see *Raspberry*.
rubus-caulis, *Figites*, 1:315.
rudbeckiae, *Aphis*, see *Nectarophora*.
 Nectarophora (syn. *Aphis*, *Siphonophora*), 9:406, 411, 412.
 Siphonophora, see *Nectarophora*.
rudis, *Musca*, see *Pollenia*.
 Pollenia (syn. *Musca*, *M. familiaris*), 2:117; 8:297; 9:309-14, 439; 10:498, 510, 516; 12:361; 13:370³; 14:375¹, 383⁵, 398⁶.
rufa, *Formica* (probably *F. exsectoides*), 2:117, 186; 11:115, 273; 12:181-82; 14:399².
rufescens, *Panorpa*, 10:464-73, 478-80; 12:352; 14:393⁴.
Ruffin, Edward, cited, 2:102.
rufibarbis, *Erax*, 1:319.
ruficeps, *Anthomyia*, 1:171, 185.
ruficollis, *Agrilus* (syn. *Buprestis*), 6:123-25, 174; 10:406-7, 516; 11:285; 12:352; 14:324⁸, 367⁸, 393³.
 Buprestis, see *Agrilus*.
 Lathridius (syn. *L. pulicarius*), 6:183, 184; 14:330³.
rufimana *Bohem.*, *Mylabris*, see *Bruchus rufimanus Bohem.*
rufimanus *Bohem.*, *Bruchus* (syn. *B. granarius Linn.*, *Mylabris rufimana Bohem.*), 6:128; 7:263, 267, 268, 279-85, 286, 383; 8:299; 9:440; 14:374⁶.
rufimanus *Schon.*, *Mylabris*, erroneous reference of *Bruchus lentis Bohem.*
rufipennis, *Apate*, see *Polygraphus*.
 Attagenus, see *A. piceus*.
 Dendroctonus (syn. *Hylurgus*), 2:54.
 Hylurgus, see *Dendroctonus*.
 Polygraphus (syn. *Apate*), 2:54.
rufipes, *Altica*, see *Crepidodera*.
 Chrysomela, see *Crepidodera*.
 Crepidodera (syn. *Altica*, *Chrysomela*, *Crepidodera erythropus*), 4:101-3, 196; 11:269; 14:348⁵, 357⁵.
 Phora, 10:405.
rufocoxalis, *Apanteles*, see *A. congregatus* var.
rufopectus, *Allantus*, see *Tenthredo*.
 Tenthredo, see *Tenthredo rufopectus*.
rufosanguinea, *Galeruca*, 11:197.
rufovillosum, *Xestobium* (syn. *Anobium tessellatum*), 2:202.
rufula, *Taeniocampa*, 11:265.
rufus, *Culex*, 12:327.
rugosa, *Lachnosterna*, 9:355; 11:268.
rugosus, *Oxytelus*, 1:189; 3:134, 142.
rugulosus, *Eccoptogaster*, see *Scolytus*.
 Scolytus (syn. *Eccoptogaster*), 3:152; 4:103-7, 186, 208; 5:300, 319; 7:383; 11:270, 287; 12:362; 14:340⁸, 346⁴, 353³, 357⁵.
Rumex, see *Dock*.
rumicis, *Aphis*, 9:440; 14:375³.
 Hypera, see *Phytonomus*.
 Phytonomus (syn. *Hypera*), 1:248.
Rumley, E., insects from, 10:510.
Rupert, W. P. & sons, insects from, 6:187.
Rural New Yorker cited, 1:221; 4:28; 5:234; 6:170; 7:255; 8:129, 285; 9:300, 439; 10:378; 11:145, 209, 217, 218, 219, 233, 242; 12:273; 13:353⁷; 14:361⁵, 372³, 373³.
ruscarius, *Elaphrus*, 12:209.
Rusk, S. E., insects from, 7:381.
Russell, Henry, insects from, 13:373⁸.
Russell, J. C., insects from, 3:142.
Russell, Dr S. A., insects from, 4:208; 11:284, 287; 12:360, 363.
Rust mite, 3:144.
rusticus, *Anisodactylus*, 12:209.
 Myrmeleon, 11:238.
Rutabaga, insects injurious to;
 Aphis brassicae, 6:147.
 Mamestra picta, 2:2.
 Murgantia histrionica, 1:267.
rutila, *Gortyna*, see *Hydroecia*.
 Hydroecia (syn. *Gortyna*), 1:115.
rutulus, *Papilio*, 8:296.
Rye, insects injurious to;
 Calandra granaria, 7:365; 14:367⁵.
 Cephus pygmaeus, 7:334.
 trimaculatus (syn. *Phylloecus*), 8:167.
 Chlorops, 8:167.
 Isosoma hordei, 4:29.
 Janus integer (syn. *J. flaviventris*), 8:167.
 Leucania albilinea, 10:490, 492, 509; 14:379².
 unipuncta, 12:197, 206.

- Rye, insects injurious to (*cont'd*)
Nectarophora granaria (syn. *Siphonophora avenae*), 1:313; 2:225; 3:113, 114; 5:247, 252; 6:169; 7:360; 14:361^a.
Oscinis glabra, in Europe, 1:225.
pumilionis, in Europe, 1:225.
Rymosia fenestralis, 10:392.
- Sabin, R. H., insects from, 3:141; 5:324.
- Sabulodes lorata* (syn. *Tetracis*), 3:140; 10:483.
nubilata (syn. *Prochoerodes*), 11:266.
transversata (syn. *Eutrapela*, *Prochoerodes*), 8:287; 10:483; 11:284; 14:372^s.
- sacchari*, Tyroglyphus, *see* T. siro.
sackeni, Mallota, *see* M. posticata.
 Saddle back caterpillar, 1:328; 6:187; 11:264.
- Sage, insects injurious to;
Eudamus proteus, 1:337.
Hydroecia nitela (syn. *Gortyna*), 1:112; 8:191.
- Sager, J., insects from, 7:381.
- St Fargeau, A. L. M. and Serville, J. G. A. [and Le Peletier], cited, 5:174.
- St Lawrence republican* cited, 1:99, 127; 6:180, 182; 14:328^o.
- St Louis academy, *Transactions* cited, 4:151; 7:255.
- salicellis*, Lachnus, 9:407, 412.
saliceti, Cryptocampus, 13:336^e.
salicipomonella, Batrachedra, 12:360.
salicis, Cecidomyia, *see* C. rigida.
Chionaspis, 9:411.
Coccus, *see* Lecanium.
Lecanium (syn. *Coccus*), 9:409, 411, 413.
Oedemasia, 11:265.
Pulvinaria, 9:411.
- salicis-batatus*, Cecidomyia, 2:231; 14:334².
- salicis-pomum*, Nematus, *see* Pontania pomum.
- Salix cordata*, *see* Willow.
viminalis, *see* Willow, basket.
- Salsify, *Lygus pratensis* on, 13:352^s; Thrips on, 11:249.
- Salt, *Piophila casei* in, 12:230.
- Salt pork, *Piophila casei* infesting, 12:230.
- saltatorius*, Neuroterus, 7:309.
saltatus, Andricus, 7:309.
- saltitans*, Carpocapsa (syn. C. deshaiana), 4:151-54; 5:315; 6:187; 7:310; 8:292; 14:315^o, 338^s, 358¹.
- Salvia*, *Poecilocapsus lineatus* on, 5:273, 274.
sambucifoliae, Aphis, 9:406, 412.
Sambucus, *see* Elder.
Samia cecropia (syn. *Attacus*, *Platysamia*), 1:72, 328; 2:77; 9:455; 10:481; 11:265; 12:355; 13:371^o; 14:313^s, 394¹.
columbia, 1:86.
- Samp, insects infesting;
Plodia interpunctella (syn. *Ephesia*), 12:360.
Silvanus surinamensis, 12:361.
- San José scale, appearance in Atlantic states, 11:101, 207; bibliography, 11:231-33; bulletin on, 11:102, 105; carried by birds, 11:224-25; Comstock, J. H., on, 11:206; condition of Long Island nurseries, 11:213-15; described, 11:219-21; distributed in nursery stock, 11:101, 225; female described, 11:221; figures, 11: plates 12, 13, 14; food plants, 11:223-24; gas treatment for, 11:230; in Florida, 11:208-9; injurious character of, 11:101; in Maryland, 11:208; in New Jersey, 11:215-16; in New Jersey nurseries, 11:216-19; in New York, 11:210-12; in Ohio, 11:219; in other states, 11:209-10; introduction and spread, 11:207; investigation by U. S. Department of Agriculture, 11:207-8; legislation, proposed, 11:226-28; legislative appropriation for, 11:102; life history, 11:221-23; limited to upper austral life zone, 11:102, 179; male described, 11:220-21; nursery stock, treatment of infested, 11:231; on Long Island, 11:212-13; potash wash for, 11:230; protection from infested nursery stock, 11:225-26; reference, 10:456, 505; 11:181, 201, 275, 277, 278, 287; 12:316, 357, 363; 13:332⁴, 368⁵, 368⁷, 369^o, 374¹; 14:386^o, 388^s-89¹, 395^o, 397^o, 398^s, 399⁵; remedies, 11:228-31; spread of, 11:102, 224-25; summer washes for, 11:230; whale oil soap for, 11:229; winter washes for, 11:228-29.
- sanborni*, Chernes, 3:142; 6:190.
 "Sand flies" (*Ephemeridae*), 4:122.
- sanguinea*, Coccinella, 7:382; 8:300.
Galeruca, *see* *Lochmaea crataegi*.
- sanguinicollis*, Penthimia, 9:397.
- sanguisugus*, Conorhinus, 4:111; 5:316; 14:339¹.
- Sannina exitiosa*, *see* *Sanninoidea*.

- Sanninoidea exitiosa (syn. Aegeria, Sannina), 1:47, 57, 64, 259; 2:6, 60, 216; 4:107; 6:170; 8:181-86; 9:367; 14:361^s.
- santes, Colias, *see* Eurymus philodice.
- Sap fly, 10:389.
- Saperda affinis, *see* Oberea bimaculata.
- bimaculata, *see* Oberea.
- bivittata, *see* S. candida.
- calcarata, 1:297; 11:269.
- candida (syn. S. bivittata), in hawthorn, 5:320; oviposition of, 4:200; 5:269-71; reference, 1:297, 306, 331; 4:107; 5:325; 9:440; 10:488, 511; 11:269; 12:239, 246, 356; 13:365⁴; 14:340⁹, 349⁶, 363³, 374⁵, 378⁵, 394⁹, 396⁶; remedies, 1:58, 64; 2:27; 3:105; 7:313-14; 10:488.
- cretata, 1:331; 11:269.
- tridentata (syn. Compsidea, Saperda trilineata), associated insects, 12:246; bibliography, 12:243; described, 12:245; distribution, 12:247; figures, 12: plate 7, fig. 4, 5; plate 8, fig. 2; injuring elms, 9:427-28; 12:243-45; life history, 12:246; parasites, 12:247; reference, 10:484, 485, 499; 12:239, 355; 14:377², 377⁵, 384⁶, 394⁹, 399⁶; remedies, 9:428-29; 12:247-48.
- trilineata, *see* S. tridentata.
- tripunctata, *see* Oberea bimaculata.
- vestita, 4:207; 11:269; 12:245.
- Saponaria officinalis, army worm moths on, 12:202.
- Saprolegnia ferax, fungus on fishes, 5:272.
- Sapromyza vulgaris (syn. Chlorops, C. antennalis), 1:225.
- saratogensis, Aphrophora (syn. Lepyrionia), 1:285; 4:121; 9:393, 410.
- Lepyrionia, *see* Aphrophora.
- Sarcophaga helioides, 12:210.
- oedipodinis, 12:210.
- species, 12:210.
- Sarcoptidae, 5:290.
- Sargent, C. S., cited, 12:268.
- Sargent, C. W., insects from, 12:361.
- Sassafras, Oberea schaumii on, 5:233.
- satellitica, Philampelus, *see* P. pandorus.
- satyricus, Ufeus, 10:482.
- satyriniformis, Melittia, *see* Melittia satyriniformis.
- satyrus, Grapta, *see* Polygonia.
- Polygonia (syn. Grapta), 7:375; 14:321^s.
- Xyloryctes, 7:251.
- Satyrus alope, *see* Cercyonis.
- nephele, *see* Cercyonis.
- saucia, Agrotis, *see* Peridroma.
- Noctua, *see* Peridroma.
- Peridroma (syn. Noctua, Agrotis, A. inermis, A. ortonii), 1:8, 328; 5:200-6; 8:234, 235; 11:121, 265; 14:362⁷.
- Saunders, Edward, *Hemiptera Heteroptera of the British islands* cited, 10:430.
- Saunders, William, cited, 1:127, 152, 227, 233, 271; 2:69, 97, 102; 4:80; 5:164, 231; 7:225; 8:129, 160; 9:300; 11:134, 146, 249; 12:183, 191, 218, 235, 237; 13:351⁹; quoted, 12:219-20; referred to, 12:221, 222; *Insects injurious to fruits* cited, 1:271, 281; 2:57, 69, 97, 118, 126, 168; 4:63, 80, 115; 5:180, 184, 231, 253; 6:125; 7:288; 8:129; 9:317; 10:388, 408; 11:127, 134, 160, 171, 249; 12:218; 13:351⁹; 14:333⁵; *Synopsis of Canadian Arctiidae* cited, 7:225; 12:183.
- saundersii, Homoptera, *see* H. lunata.
- Sautter, Louis, referred to, 13:345².
- Saw flies, attacking fruit trees, 5:323; 9:335-36; 14:342²; attacking pear trees, 2:5; attacking quince, 2:232; 14:334⁶; attacking wheat, 3:88; 4:135; 14:345²; classification, 1:78; 4:190; parasite of currant sawfly, 4:197; pupation of certain ones delayed, 1:138; reference, 4:205; remedies, 1:33, 42.
- Saw fly, red breasted, *see* Tenthredo rufopictus.
- Saw fly borer, 7:334.
- Saw fly larvae, 12:359; 13:371⁴.
- Say, Thomas, cited, 1:211, 232, 271, 281; 2:110, 125, 132, 136, 139, 148, 164; 3:133; 4:107, 128, 156; 5:227, 242; 8:152; 10:432; 11:109, 240; 12:237, 267; 13:351⁹ quoted, 11:110; referred to, 11:110; 12:240; *Complete writings* (Le Conte ed.) cited, 1:281; 2:110, 136, 139; 4:107, 128, 156; 5:227, 242; 7:255; 8:152; 10:388, 432; 11:109, 240; 12:237, 267; 13:351⁹; quoted, 11:110; *Descriptions of new species of heteropterous Hemiptera of North America* cited, 1:271, 294, 306; 2:148, 164; 4:107; *Descriptions of North American Curculionides* cited, 7:255; 12:267;

- Narrative of an expedition to the source of St Peter's river*
under Long, cited, 1:281; 12:237.
- sayi, *Lytta*, *see* *Pomphopoea*.
Pomphopoea (syn. *Lytta*), 6:136; 14:368¹.
- sayii, *Amblycephalus*, *see* *Deltocephalus*.
Deltocephalus (syn. *Amblycephalus*), 9:401, 410.
- scabies, *Epidapus*, 10:447.
- scabra, *Hypena* (syn. *H. erectalis*), 9:454; 14:312⁵.
- Osmoderma*, 1:330; 11:268, 284; 12:361; 13:373⁵.
- scalaris, *Bellamira* (syn. *Leptura*), 5:285.
- Heliria* (syn. *Telamona fagi*), 9:391, 410.
- Homalomyia*, 1:168, 171.
- Leptura*, *see* *Bellamira*.
- Scale insects, characters, 11:200; classification, 1:79; 11:200; contact insecticides for, 4:190; development, 11:200-1; fish brine for, 1:60; kerosene or kerosene emulsion for, 1:43; 2:32, 38; 8:215; lady bugs destroying, 5:266; 6:105; 7:341; 10:501; losses caused by, 6:104; 7:340; New York species, 11:277; number of species, 11:201; on apple and pear, 8:293; 9:440; 14:316⁶; on camellia and oleander, 8:214-15, 279; 10:497; on ivy, 5:278-79, 317; 14:349⁸; on maple, 1:310; 5:313; reference, 1:286, 309; 2:187; 4:180, 200; 8:254; 9:377; 11:274, 275; 12:348; 14:349⁸, 349⁹, 363², 369⁷, 387⁵, 388⁹, 391⁵; remedies for, 5:300; 6:144; soluble phenyle for, 1:49; species treated of, 11:201-33; spread of, 4:187-88; 6:104; studies of, 1:18; 4:165; useful species, 11:201.
- Australian, 7:340.
- Scallop wing, 8:109, 171, 172; 10:497; 14:382⁶.
- scandens, *Agrotis*, *see* *Carneades*.
Carneades (syn. *Agrotis*), 1:58, 328; 11:121, 265.
- scapha, *Eulimacodes* (syn. *Limacodes*), 1:328; 11:264.
- Limacodes*, *see* *Eulimacodes*.
- Scarabacidae, 1:227, 232; 4:182; 5:227; 7:246; 10:408-13, 503; injuring the apple tree, list of, 11:268.
- Scarabaeus indus*, *see* *Euphoria inda*.
- tityus*, *see* *Dynastes*.
- scarlatina, *Gypona*, 9:397.
- Scatophaga ceparum*, *see* *Phorbia*.
- Scattergood, C., insects from, 3:141.
- Scavenger beetles, 6:170.
- Scelothrix maculatus* (syn. *Pyrgus*), 1:336.
- Scenopinidae, 2:45.
- Scenopinus fenestralis* (syn. *S. pallipes*), 2:44; 4:174; 7:312, 367, 382; 10:510; 12:361; 14:368⁷.
- pallipes*, *see* *S. fenestralis*.
- Scepsis fulvicollis*, 9:456; 14:313⁸.
- schaumii*, *Oberea*, 5:233.
- Schaupp, F. G., cited, 4:20.
- Schenectady daily union* cited, 8:292; 9:299; 14:316⁴.
- Scheuten, A., cited, 10:453.
- Schinia marginata* (syn. *Lygranthoezia*), 3:153.
- rivulosa* (syn. *Lygranthoezia*), 3:141.
- Schiödte, J. G., *Naturhistorisk Tidskrift* cited, 2:136.
- Schistocera americana*, 11:271.
- shoshone*, 11:271.
- Schizoneura*, venation of, 3:124.
- Schizoneura americana*, 5:319; 14:340⁶.
- caryae*, 3:125.
- imbricator*, *see* *Pemphigus*.
- lanigera* (syn. *Aphis*, *Eriosoma*, *E. pyri*, *Myzoxylus mali*, *Pemphigus pyri*), 1:43, 47, 331; 2:35, 181; 3:125; 5:160; 9:407, 408, 411, 412, 413; 11:271; 13:366⁶-67²; 14:397³.
- querci*, 2:181; 3:125.
- rileyi*, 3:125; 13:374⁶.
- strobi*, *see* *Lachnus*.
- tessellata*, *see* *Pemphigus*.
- ulmi* (syn. *Lachnus*), 2:181; 9:411, 412.
- Schizoneurinae*, 9:412.
- Schizura concinna* (syn. *Oedemasia*, *Notodonta*), delayed pupation, 1:137; *Limneria fugitiva* parasitic on, 3:90, 91, 140, 150; 7:381; reference, 1:328; 5:169, 324; 8:292; 9:454; 11:265; 14:312⁸, 316⁸, 346¹, 352², 356⁹; remedies, 1:57; 5:309.
- eximia* (syn. *Oedemasia*), 1:328; 11:265.
- unicornis* (syn. *Coelodasys*), 1:137, 328; 9:455; 11:265; 14:313³.
- schlaegeri*, *Cryptolechia*, *see* *Stenomoma*.
- Stenomoma* (syn. *Cryptolechia*), 9:456.
- Schmidt, Bernard, jr, insects from, 3:140.
- Schmitt, G. A., insects from, 3:141.

- Schmitz, H. C., insects from, 3:140.
 Schoenherr, C. J., *Genera et species Curculionidum* cited, 2:140; 7:279, 285; *Synonymia insectorum* [1806] cited, 2:136.
 Schofield, S., cited, 13:343^o.
 schönherri, *Pachyrhynchus*, see *Ithycerus noveboracensis*.
School of mines quarterly cited, 12:283.
 Schoonmaker, E. T., insects from, 13:372¹, 374^o.
Schoturus boletivorus (syn. *Achorutes*), 2:206.
 marmoratus (syn. *Achorutes*), 2:206.
 nivicola (syn. *Achorutes*, *Podura*) associated species, 2:206; bibliography, 2:203; 11:251; description, 2:205, 206, 244; family characteristics, 2:206, 207; habits, 2:204; identity of species, 11:251; observations of, 2:204, 205; observed at Ghent, N. Y., 11:251; reference, 10:519; 12:357; 14:342^o, 343³, 396¹.
 pratorum (syn. *Achorutes*), 2:206.
 texensis (syn. *Achorutes*), 2:206.
 Schrank, Franz, *Enumeratio insectorum Austriae indigenorum* cited, 5:234.
 Schwartz, Charles, insects from, 6:188.
 Schwarz, E. A., cited, 4:104; 7:247, 296, 297; 10:405; 11:109, 197, 233; 12:273.
Sciara, *Additional notes on*, 12:223-28; 14:399⁴; general reference, 1:189, 219, 330; 4:200; 5:264; 6:188; 10:387-91, 447, 489, 490; notes on, 10:387-91; 12:351; 14:393².
 manure, 10:398, 400.
Sciara agraria, 12:225-26.
 caldaria, 10:396, 397-99, 403, 510; 12:351; 14:308³, 378^o, 393².
 coprophila, 10:391-97, 403; 12:351; 14:308³, 378^o, 393².
 deperdita (fossil form), 10:388.
 fucata, ^a 5:265; 10:388.
 fuliginosa (syn. *Molobrus*), 10:387.
 fulvicauda, 12:227-28, 361.
 giraudii, ^a 5:265.
 hyalipennis, ^a 5:265.
 inconstans (syn. *Molobrus*), 10:387.
 longipes, ^a 5:265.
Sciara mali (syn. *Molobrus*), 1:219, 330; 2:125, 227, 234; 5:265; 10:387, 388, 389, 391; 11:267; 14:332^o, 336⁷.
 militaris, ^a 10:390.
 multiseta, 12:223-24, 361.
 nervosa, ^a 5:265; 10:392, 489.
 nigra, 10:394.
 obscura, 12:226.
 ocellaris, 10:388.
 ochrolabis, 10:394; 12:227.
 pauciseta, 12:224, 225, 361.
 pulicaria, ^a 5:265; 10:388.
 prolifera, 12:226-27; 13:372^o.
 punctata, ^a 10:388.
 pyri, ^a 5:265.
 quinquelineata, ^a 5:265; 10:388.
 rotundipennis, 10:394.
 sciophila, 10:394.
 scopuli (fossil form), 10:388.
 species, 5:264; 14:349³, 363².
 thomae, ^a 5:264; 10:390.
 tilicola, ^a 5:265.
 toxoneura, 10:388.
 tritici, 10:389.
 villosa, 12:225.
 vittata, ^a 5:265.
 vulgaris (syn. *Molobrus*), 10:387; 13:372^o.
Sciarae, 10:490.
sciarina, *Docosia*, 10:392.
Sciarinae, 10:389.
Sciarinen, 10:388.
Science cited, 1:149; 2:149, 233; 4:35, 36; 6:183, 185; 7:296; 8:152; 9:300, 318, 441; 10:452; 12:332; 14:330⁴, 334^o, 375⁴.
Scientific American cited, 4:115; 8:160; 10:478; 11:109; 12:214, 273.
scincetus, *Attalus*, 11:267.
sciophila, *Sciara*, 10:394.
Sciophila striata, 10:392.
seitana, *Dichrorampha*, see *Grapholitha interstinctana*.
scitiseripta, *Cerura* (syn. *C. candida*), 7:375; 14:321^o.
scitulus, *Mesochorus*, 12:211.
Scoliopteryx libatrix (syn. *Gonoptera*), 1:340; 8:109, 171-72; 9:450, 456; 10:497; 14:313⁷, 382^o.
Scolopendridae, 4:132, 133; 6:190.
scolopendrina, *Cerura* (syn. *C. aquilonaris*), 7:375; 14:321^o.
Scolopendrium vulgare, see *Hart's tongue*.
Scolytid bark borers, 7:352; 10:500.
Scolytidae, 2:54; 4:103-7, 154, 204; 7:238; 9:365, 367; injurious to apple tree, list of, 11:270.

- Scolytus* beetles, 9:428; 12:248.
 icoriae, 4:107.
 obesus, *see* *Xyleborus dispar*.
 pyri, *see* *Xyleborus dispar*.
 rugulosus (syn. *Eccoptogaster*), 3:152; 4:103-7, 186, 208; 5:300, 319; 7:383; 11:270, 287; 12:362; 14:340³, 346⁴, 353³, 357⁵.
Scopelosoma larvae fed on apple leaves, 1:327.
 sidus, 11:265.
Scopolia sequax, *see* *Phorichaeta*.
scopuli, *Sciara* (fossil form), 10:388.
Scorias spongiosum, a fungus, 9:347, 463.
Scorpion, 10:464.
Scorpion flies, 10:463-80; 12:352; 14:393⁴.
Scottish naturalist cited, 11:162.
Screw worm, 1:40, 62, 343.
scribonia, *Ecpantheria*, *see* *E. ocularia*.
 Phalaena, *see* *Ecpantheria ocularia*.
scripta, *Chrysomela*, *see* *Melasoma*.
 Habrosyne, 1:340.
 Lina, *see* *Melasoma*.
 Melasoma, *see* *Melasoma scripta*.
 Plagiodera, *see* *Melasoma*.
scriptura, *Pyrgus*, 1:336.
scrophulariae, *Anthrenus*, *see* *Anthrenus scrophulariae*.
 Byrrhus, *see* *Anthrenus*.
 Cionus, 1:248.
 Dermestes, *see* *Anthrenus*.
scrutator, *Calosoma*, 10:491, 516; 12:209, 361; 14:379⁷.
Scudder, S. H., cited, 2:188; 4:104; 10:388, 405; 11:241; *Butterflies of the eastern United States* cited, 11:282, 283; *Entomological correspondence of Thaddeus William Harris, M. D.*, cited, 1:81, 110, 227; 2:57, 102, 203; 4:27, 51; 5:180, 183, 192, 206; 9:309; 12:298; *Entomological notes* cited, 9:330; *Frail children of the air* noticed, 11:282-83; 14:390⁶.
Scudder, S. H., and Burgess, Edward, cited, 10:404.
sculptilis, *Sphenophorus*, *see* *Sphenophorus sculptilis*.
sculpturatus, *Oxytelus*, 1:189.
sculptus, *Pterostichus*, 12:209.
Scurfy bark louse, *see* *Bark louse*, *scurfy*.
scutellaris, *Anoplitis*, *see* *Odontota dorsalis*.
 Bassus, 12:211.
 Bruchus, *see* *B. chinensis*.
 Chrysomela, *see* *Odontota dorsalis*.
 scutellaris, *Coccotorus* (syn. *C. prunicida*), 4:17; 11:270.
 Odontota, *see* *O. dorsalis*.
scutellatus, *Monohammus*, 10:517.
Scutelligera ammerlandia, *see* *Microdon globosus*.
Scutigera floridana, *see* *S. forceps*.
 forceps (syn. *S. floridana*, *Calista*, *Cermatia*, *C. floridana*, *C. coleoptrata*), classification, 4:128-29; detailed account, 4:128-34; 7:324-27; distribution, 4:130-31; 7:325-26; food, 4:132-33; 5:295-96; 7:325-26; habits, 4:131-33; life history, 4:134; poisonous, 4:133-34; 7:327; reference, 3:142; 4:208; 6:175, 190; 8:282; 9:440; 12:364; 13:375⁵; 14:325³, 357⁵, 363⁶, 370⁹, 374⁸.
 lincei (syn. *Cermatia*), 4:132.
Scutigeridae, 4:128, 132; 7:324-27.
Scymnus species, 5:300; 11:232.
 terminatus, 2:186.
Scythropus elegans, 3:141.
Seaman, Mrs G., insects from, 10:510.
Secale cereale, *see* *Rye*.
secale, *Isosoma* (syn. *Eurytoma secalis*), 4:27, 29.
secalina, *Thrips*, 11:246.
secalis, *Eurytoma*, *see* *Isosoma secale*.
Seed corn fly, *see* *Wheat fly*, *deceptive*.
Seehaus, Philip, insects from, 13:371⁹.
Seeley, H. M., insects from, 6:188; 11:173.
Seelye, C. W., insects from, 12:361.
segetum, *Agrotis*, 8:235.
Selandria cerasi, *see* *Eriocampoides limacina*.
 rosae, *see* *Monostegia*.
 rubi, *see* *Monophadnoides*.
selecta, *Plusia* (syn. *P. viridisignata*), 10:377.
Selenophorus pedicularius, 12:209.
Sellnow, George, insects from, 13:371⁹.
Semasia species, 11:266.
Semblis pectinicornis, *see* *Chaoliodes*.
semiclusaria, *Nepytia* (syn. *Cleora pulchraria*), 4:20, 21; 9:450.
seminarius, *Bruchus*, 7:283, 284.
seminuda, *Eutettix* (syn. *Bythoscopus seminudus*), 9:398, 410; 11:270.
seminudus, *Bythoscopus*, *see* *Eutettix seminuda*.
Semiphora elimata var. *badicollis* (syn. *Agrotis badicollis*), 10:482.

Semiotellus chalcidiphagus, 4:33.
clisiocampae, *see* *Dibrachys boucheanus*.
destructor, 1:321.
semiovana, *Phoxopteris*, 10:483.
semisculpta, *Chrysobothris*, *see* *C. contigua*.
semistriatus, *Psocus*, 1:161.
senatoria, *Adelocephala*, *see* *Anisota*.
Anisota (syn. *Adelocephala*, *Dryocampa*), 2:230; 3:91; 5:192-200; 9:450, 453; 14:312¹, 333³, 362⁵.
Dryocampa, *see* *Anisota*.
Senecio scandens, *see* *Ivy*, German.
sennettii, *Ecpantheria*, *see* *E. garzoni*.
Sentinel [Trumansburg, N. Y.], abstract from, 14:343³.
septemmaculata, *Diplosis*, 5:280.
septendecim, *Cicada*, *see* *Cicada septendecim*.
var. cassinii, *Cicada*, 10:424; 12:279.
Tibicen, *see* *Cicada*.
Septoria cerasina, *see* *Plum leaf fungus*.
sequax, *Phorichaeta* (syn. *Scopolia*), 8:238.
Scopolia, *see* *Phorichaeta*.
sera, *Gortyna*, *see* *Hydroecia velata*.
Hydroecia, *see* *H. velata*.
Serica iricolor, 1:330; 11:268.
tristis, 8:284, 298; 14:371⁹.
valida, 11:268.
sericea, *Cistela*, 6:130.
sericeus, *Dolerus*, 4:197, 205; 14:348⁵.
Sericoris campestrana, 10:483.
instrutana, erroneous reference of *Steganoptycha claypoliana*.
serrata, *Haematobia*, *see* *Haematobia serrata*.
Lyperosia, *see* *Haematobia*.
Priophora, *see* *Haematobia*.
serraticeps, *Ceratopsyllus* (syn. *Pulex*), 12:361; 13:372⁹.
Pulex, *see* *Ceratopsyllus*.
serraticornis, *Cucullia*, 9:456; 14:307³, 313³.
serratus, *Polydesmus* (syn. *P. canadensis*), 3:133; 12:301, 349.
serricornis, *Chauliodes*, 8:159.
Sesame grass, sculptured corn curculio on, 1:259.
Sesia acerni (syn. *Aegeria*), 10:504; 14:386⁵.
buffaloensis, *see* *Hemaris*.
diffinis, *see* *Hemaris*.
octomaculata, *see* *Alypia*.
pictipes (syn. *Aegeria*), 5:280.
pyri, 11:264.
thysbe, *see* *Hemaris*.

Sesia tipuliformis (syn. *Aegeria*), 1:8; 2:60, 216.
uniformis, *see* *Hemaris thysbe* var. *ruficaudis*.
Sesiidae (syn. *Aegeridae*), 1:83; 2:60, 216; 4:154; 5:311, 313, 317; 9:338, 456; 14:336³.
sessilis, *Hemiteles*, 1:86.
setacea, *Phora*, 10:402.
setigera, *Diplosis*, 11:168; 12:357; 14:308⁴, 395⁶.
Settle, H. G., insects from, 5:325.
Seventeen year locust, *see* *Cicada*, 17 year.
Sewell, E. W., insects from, 7:383.
sexguttata, *Cicindela*, 9:462.
Sexton beetles, 5:289; 14:363⁵.
Seymour, M., insects from, 12:362.
Shad bush, insects injurious to;
Nectarophora granaria (syn. *Aphis avenae*), 1:316.
Thecla liparops (syn. *T. strigosa*), 4:137.
Shad fly, 1:298; 2:240; 14:343³.
Shaffer, L. B., insects from, 13:373³.
Shanks, Dr S. G., insects from, 13:372².
Sharp, David, cited, 11:241, 250.
Shaw, J. C., insects from, 5:324.
Shealy, James, insects from, 11:285.
Shear, C. L., insects from, 8:300; 9:462; 10:511.
Sheep gad fly, 1:299.
Sheep maggots, 1:299.
Sheep scab, 7:362; 14:366¹.
Sheep tick, 1:78, 79, 299.
Sheep warble fly, 6:111.
Sheldon, C. S., insects from, 10:512.
Shimer, Henry, cited, 2:126, 148, 180; 4:114.
Shimer, S. W., insects from, 5:325.
Shipley, —, cited, 11:241.
Shoes, *Sitodrepa panicea* injuring, 14:349.
shoshone, *Schistocera*, 11:271.
Shreve, R. H., insects from, 12:362.
Shrews feeding on army worms, 12:308.
Shrimp, blind, 9:347-49; 10:498.
fresh water, 9:348.
Sialia sialis, *see* *Bluebird*.
Sialidae, 8:159.
Sibine stimulea (syn. *Empretia*), 1:328; 5:186, 188; 6:187; 7:381; 9:355; 11:264; 13:371⁸; 14:313³.
sidus, *Scopelosoma*, 11:265.
Siewers, C. G., cited, 12:183; 13:343⁷; referred to, 13:351¹.
Sigalphus curculionis, 1:308.
tibialis, *see* *Phanerotoma*.
signata, *Mycetophila*, 10:392.
Tricholita, 10:377.
signatipes, *Ichneumon*, 7:228.

- signatus, *Anthonomus* (*A. musculus* in error), 3:139; 9:431.
 signifera, *Coptocycla* (syn. *C. guttata*), 6:127; 7:369; 14:318^s.
 signoreti, *Aphrophora*, 5:245.
 Silk culture, 14:346^s.
 Silk worm, 1:76; 7:359; 9:423; 14:364^s.
 American, 10:493; 11:265.
 Silk worm disease, 2:40; 4:178.
 Silk worm fungus, 2:179.
 Silk worm moth, 10:493; 14:380⁴.
Silliman's journal of science cited, 5:174.
Silpha americana, 9:462; 11:285.
 surinamensis, 12:361.
 thoracica, of Europe, 4:180.
Silphidae, number of larvae described, 4:182.
Silphides, sense organs in, 1:69.
Silvanus advena, see *Cathartus*.
 cassiae, see *Cathartus gemellatus*.
 surinamensis, 1:40, 330; 6:107, 188; 7:331; 9:308, 462; 10:495; 11:267; 12:361; 13:373²; 14:380^o.
silvellus, *Crambus*, 1:150.
 Silver maple, see *Maple*, silver, soft or white.
 Silver top caused by Thrips, 11:249.
silybi, *Aphis*, of Europe, 3:122.
similalis, *Loxostege* (syn. *Eurycreon rantalis*), 1:329; 6:182; 11:266; 14:329^s.
similis, *Anthomyia* (syn. *Hylemia*), 1:171, 202; 14:335^s.
 Helophilus, 7:230, 233.
 Helophilus, erroneous reference of *H. latifrons*.
 Hylemia, see *Anthomyia*.
 Simons, Mrs H., insects from, 9:461.
 Simons, F. M., insects from, 10:519.
simplex, *Plusia*, 10:376, 487; 14:378².
 Simpson, G. B., insects from, 13:374².
simson, *Argyramoeba*, 8:300.
simulans, *Ephemera* (syn. *E. natata*, *Palingenia natata*), 4:121; 14:350³, 357⁷.
 Psylla, 9:328.
simulator, *Thricolepis*, 11:269.
Simuliidae, 2:112; 12:320.
Simulium, 11:283; 12:307, 320.
 invenustum (syn. *S. pecuarum*), 5:314; 14:338³.
 molestum, see *S. venustum*.
 pecuarum, see *S. invenustum*.
 venustum (syn. *S. molestum*), 5:283, 317; 14:339⁶.
Sinea diadema, 1:331; 11:270.
singularis, *Otiiorhynchus* (syn. *O. picipes*), 2:52; 10:418; 11:269.
Sinoxylon, red shouldered (*S. basilare*), 1:330; 11:268.
Sinoxylon basilare, 1:330; 2:127, 130; 11:268.
sinuata, *Entilia*, 9:387.
sinuatus, *Agrilus*, 11:225, 286.
 Platynus, 12:209.
Siphocoryne capreae, 3:123.
 pastinacae, 3:123, 151.
Siphonella obesa, 1:225.
Siphonophora asclepiadis, see *Aphis*.
 avenae, see *Nectarophora granaria*.
 granaria, see *Nectarophora*.
 rudbeckiae, see *Nectarophora*.
 solani, see ?*Nectarophora*.
 solanifolii, see *Nectarophora*.
 species, 10:512.
Sirex albicornis, see *Urocerus*.
siro, *Tyroglyphus* (syn. *Acarus domesticus*, *A. farinae*, *A. lactis*, *Tyroglyphus farinae*, *T. sacchari*), 3:100, 129-30, 151; 5:291-95; 6:170; 7:357; 8:293; 11:256; 13:364⁹; 14:316⁵, 346², 361⁷, 363⁹, 364¹, 396⁵.
Sirrine, F. A., cited, 11:233, 242; insects from, 10:517; 11:287.
Sirthena carinata, 4:113.
Sitodrepa panicea (syn. *Anobium*, *A. obesum*, *Dermestes*), 4:88-93, 197, 198, 207; 7:311; 9:440; 13:373⁴; 14:348⁷, 349¹, 357⁴, 374⁴.
Sitona lineatus, European pea weevil, 1:49.
Sitones lineatus, see *Sitona*.
Sitophilus, see *Calandra*.
Sitotroga cerealella (syn. *Alucita*, *A. granella*, *Anacamptis*, *Butalis*, *Gelechia*, *Oecophora granella*, *Tinea granella*, *Ypsolophus granellus*), 1:299, 316; 2:102-10; 4:17; 6:187, 190; 9:308; 10:377-86, 485, 492, 510; 12:351; 14:342⁶, 377³, 379³, 393¹.
Sium, see *Water parsnip*.
 Skeleton bug, see *Walking stick*.
 Skidmore, J. D., insects from, 13:208.
 Skinner, D. B., insects from, 4:208.
 Skinner, H., 12:249.
 Skippers, cheese or ham, see *Piophilae casei*.
 Skirret of Peru, *Margaronia nitidalis* (syn. *Eudiotis*) on, 11:132.
 Skunks, feeding on army worm, 12:208; on *Cicada* pupae, 12:288.
 Slade, Elisha, cited, 1:172.
 Slingerland, M. V., cited, 9:318; 10:378, 454; 11:205, 233, 242; 12:194, 254, 273; 13:353⁷; referred to, 13:355³, 355⁵.

- Slocombe, Edwin, insects from, 9:464.
- Sloe, hop fly on, 1:319.
- Slosson, Mrs A. T., cited, 10:478; 12:183; 13:338⁷.
- Slugs, 1:39, 42; 7:366.
- smaragdula, Colaspidea, 11:269.
- Smart, J. S., insects from, 9:463.
- Smerinthus cerisyi, 9:451.
 excaecatus, *see* Paonias.
 geminatus, 9:451; 11:264; 14:312².
 var. jamaicensis, 9:451.
 var. ocellatus, 9:451.
 jamaicensis, *see* S. geminatus var.
 juglandis, *see* Cressonia.
 ocellatus, *see* S. geminatus var. ophthalmicus, 9:451.
- Smicra albifrons, 12:211.
 gigantea, *see* Phasgonophora sulcata.
 odontotae (syn. Spilochalcis), 12:267.
- Smilax, Peridroma saucia (syn. Agrotis) on, 5:205.
- Smilia auriculata, *see* Archasia gal-eata.
 camelus (syn. S. vittata), 9:389.
 castaneae, *see* Atymna.
 guttata, 9:389.
 inermis, *see* Stictoccephala.
 inornata, *see* Atymna.
 querci, *see* Atymna.
 vau, *see* Cyrtolobus.
 vittata, *see* S. camelus.
- Smith, C. A., insects from, 13:378⁴.
- Smith, E. A., cited 1:110; 6:147.
- Smith, Mrs E. B., insects from, 3:140; 4:205, 206, 207; 5:326; 6:188, 189; 7:382, 383, 384; 8:300; 9:461, 462, 463, 464; 10:509, 510, 511, 512, 516, 519; 11:284; 12:359, 360, 361, 364; 13:371¹, 372³, 373⁵, 373⁸, 374⁹.
- Smith, Mrs E. H., insects from, 12:362.
- Smith, Fred, insects from, 7:383.
- Smith, J. B., cited, 4:36, 104; 5:227; 7:225, 247; 8:141; 9:318; 10:378, 388, 408, 454, 478; 11:173, 177, 216, 232, 233, 241, 242; 12:183, 190, 203, 218, 230, 248, 253, 268, 272; 13:344³; insects from, 11:286; 12:223, 361; quoted, 11:211, 225; 12:289; referred to, 12:207, 210, 211, 227, 228, 251, 255, 269, 281; 13:332⁷, 357⁹; *Catalogue of insects found in New Jersey*, cited, 7:228; 10:478; 11:135, 157, 177, 241; 12:183, 190, 218, 238, 242, 243, 290; 13:335⁴, 338⁷, 340⁹, 344³, 353²; referred to 12:344; *Economic entomology*, cited, 11:110, 127, 146, 177, 233, 241, 242, 250; 12:190, 218, 230, 235, 248, 268, 272; *List of Lepidoptera of Boreal America*, cited, 8:129; 10:378; 11:127, 135, 139, 142, 146, 152; 12:183, 190, 214, 218; 13:344³.
- Smith, J. E. and Abbott, John, *Natural history of the rarer lepidopterous insects of Georgia*, cited, 2:68; 4:51; 5:174, 179, 183, 192; 7:225; 12:183; 13:342⁷.
- Smith, J. W., insects from, 8:299.
- Smith, O. W., insects from, 10:511.
- Smith, William, insects from, 4:207.
- smithii, Cryptus (syn. Hemiteles), 1:86.
 Hemiteles, *see* Cryptus.
- Smithsonian contributions to knowledge* cited, 2:132; 4:155.
- Smithsonian miscellaneous collections* cited, 2:188; 12:243.
- Smynthurus arvalis, 11:272.
 hortensis, 1:322; 2:207.
- Snails, 7:366; 14:368⁴.
- Snake worm, 1:189; 5:264; 10:388, 390, 490.
- Snapdragon, Poecilocapsus lineatus on, 1:277.
- Snapping beetles, 1:63, 78, 314; 3:101; 4:141; 7:351, 377; 8:199, 231; 12:354; 14:394³.
- Snout beetle, 1:155, 254; 2:33, 140; 3:106, 139; 7:360; 10:417; 13:374³.
 ovate, 10:416-19; 12:352; 14:393⁵.
- Snouted mites, 5:290.
- Snow, F. H., cited, 1:99, 254; 11:126, 134, 181.
- Snow, G. C., insects from, 6:188, 189; 8:299.
- Snow flea, 1:298; 2:203-7, 244; 8:266; 11:251-52; 12:357; 14:342⁹, 343³, 396¹.
- Snow fly, large, 1:298; 2:240; 14:343².
 small, 1:298; 2:239; 11:288; 14:343¹.
- Snowball, insects on;
 Oecanthus fasciatus, 6:189.
 niveus, 6:189.
- Snowberry, insects injurious to;
 Cacoechia rosana, 10:516.
 saw fly larva, 8:296.
- Soap wort, insects injurious to;
 Leucania unipuncta, 12:202.
 Poecilocapsus lineatus, 1:277.
- sobrina, Allorhina, 11:268.

- Société entomologique de Belgique, 14:305⁷; *Annales* cited, 5:179, 193; *Comptes rendus des séances de la*, cited, 12:230.
- Société entomologique de France, 14:306²; *Annales* cited, 2:136; 4:73, 104, 114, 151; 5:200, 210; 10:416; 11:109, 177, 241; *Bulletin* cited, 11:166, 177, 240.
- Société imperiale des naturalistes de Moscou, 14:306¹; *Bulletin* cited, 11:249.
- Soja beans, *Odontota dorsalis* feeding on, 12:266.
- solani, *Dortheisia*, see *Enchenopa binotata*.
- Megoura, see *Rhopalosiphum*.
- Nectarophora (syn. *Siphonophora*), 3:122.
- Rhopalosiphum* (syn. *Megoura*), 3:121, 149; 14:345⁵, 345⁶.
- Siphonophora*, see *Nectarophora*.
- solanifolii, *Nectarophora* (syn. *Siphonophora*), 3:122.
- Siphonophora*, see *Nectarophora*.
- solannina, *Aphis*, of Europe, 3:122.
- Solanum, wild, army worm feeding on, 12:206.
- Solanum dulcamara*, see *Bittersweet*.
- jasminoides, see *Pepper vine*.
- Soldier beetle, margined, 4:84-88; 11:133; 14:357⁴.
- Pennsylvania, 10:498; 12:362; 14:383⁹.
- Soldier bug, 9:457; 14:314².
- spined, 6:137; 8:238; 14:368².
- Solenopsis geminata* (syn. *S. xyloni*), 10:366; 11:264.
- molesta, see *Monomorium pharaonis*.
- xyloni, see *S. geminata*.
- Solidago*, see *Golden rod*.
- Solidago* gall moth, 2:39.
- solita, *Phytomyza*, 7:243.
- somnus, *Nisoniades*, see ?*Thanaos*.
- Thanaos (syn. ?*Nisoniades*), 1:336; 6:180; 14:306³, 327⁷.
- Sonchus oleraceus*, see *Thistle*, sow.
- Soothsayers (Mantis), 4:160.
- sordida, *Tettix*, 2:197.
- Sorghum saccharinum*, *Nectarophora granaria* (syn. *Siphonophora avenae*) on, 5:252.
- sororia, *Lachnosterna*, see *L. micans*.
- Sorrel, see *Dock*.
- Soule, C. G., cited, 12:194; 13:344¹.
- Sour gum tree, injured by *Antispila nyssaefoliella*, 11:157-59.
- Sour gum tree case cutter, 11:157-59; 12:357; 14:395⁹.
- South Carolina agricultural experiment station, *Bulletin* cited, 5:227.
- South Dakota agricultural experiment station, *Bulletin* cited, 10:405; 11:182.
- Southwick, E. B., cited, 8:152; 10:389; 12:254; 13:344⁴; referred to, 12:263; insects from, 9:462.
- Spalding, S. E., insects from, 12:360.
- Spanish fly, 5:305; 6:131, 133; 14:354⁹.
- Spanish potato, *Margaronia nitidalis* (syn. *Eudiotis*) on, 11:132.
- Sparrow, chipping, feeding on army worm, 12:209.
- English, 2:80-83; 11:274-75; 12:209, 272, 289, 297; 14:387⁷, 387⁸.
- Spartina cynosuroides*, *Sphenophorus sculptilis* on, 1:259.
- speciosa, *Bryobia*, 11:372.
- Orphulella (syn. *Stenobothrus aequalis*, *S. bilineatus*), 2:196.
- speciosus, *Arhopalus*, see *Plagionotus*.
- Clytus, see *Plagionotus*.
- Glycobius, see *Plagionotus*.
- Plagionotus*, see *Plagionotus speciosus*.
- Sphecius, 10:515; 12:272, 359.
- Specter insect, 1:111; 9:446.
- Spectrum femoratum*, see *Diapheromera femorata*.
- Spermophagus robiniae*, 7:270.
- Speyer, Adolph, cited, 2:90; 5:201.
- speyeri, *Cucullia*, 9:456; 14:307⁷, 313⁸.
- Sphaceloma ampelinum*, see *Anthrachnose*.
- Sphaeria morbosa*, see *Black knot*.
- sphaerocephalus, *Trichodectes*, 6:190; 10:513.
- Sphaerophoria cylindrica*, 10:377.
- Sphecidae, 7:238.
- Sphecius speciosus*, 10:515; 12:272, 359.
- Sphenophorus*, signification, 1:256.
- caryosus, 1:261.
- immunis, see *S. ?placidus*.
- parvulus, 1:261.
- pertinax, 1:261.
- placidus (syn. *S. immunis*, *S. rectus*, *S. venatus Say*), 1:254, 255.
- rectus, see *S. placidus*.
- robustus, 1:261, 262.
- sculptilis (syn. *S. venata*, *S. zeae*); bibliography, 1:253-54; depredations, 1:257-58; description of beetle, 1:255; detailed account, 1:253-63; different names of, 1:254, 255;

- distribution, 1:258; earliest notice of injuries, 1:255-57; food plants of allied species, 1:260; habits, 1:262; habits of allied species, 1:260; injuries underestimated, 1:262-63; injury to corn, 1:301-2, 305, 318; 2:16, 52-53, 231; larvae of, to be found in corn, 1:262; living in decayed wood? 1:258-59; original food plant, probably wild grass, 1:259-60; 2:53; reference, 1:301, 305, 310, 318; 6:178; 7:376; 14:322^s, 326^s, 334^t, 336^t; remedies, 1:263.
- venata*, see *S. sculptilis*.
- venatus* Say, see *S. placidus*.
- zeae*, see *S. sculptilis*.
- Sphingicampa bicolor* (syn. *Anisota*), 5:199.
- bisecta* (syn. *Anisota*), 5:199; 7:373; 14:307^t, 320^t.
- heiligbrodti* (syn. *Anisota*), 5:199.
- Sphingidae*, duration of life, 1:340; 6:184; flight of, 1:119; list of N. Y. species, 9:449; notes on, 10:507; 14:309^t; parasites of, 8:187; reference, 1:83; 5:317; 9:450, 459; 11:264; 14:311^t, 330^t; scent organs of, 1:71; sexual characters in larvae, 2:214; species treated of, 5:174-79; 8:242-44; studies in, 4:164, 173; undescribed larvae, list (reference), 10:508.
- Sphinx*, blind eyed, 11:264.
- five spotted, 7:379; 8:242, 243.
- white lined, 1:119, 327; 11:264.
- Sphinx canadensis* (syn. *S. plota*), 4:137; 14:350^t.
- carolina*, see *Phlegethontius*.
- celeus*, see *Phlegethontius*.
- chersis* (syn. *S. cinerea*), 7:318; 10:508; 14:309^s.
- cinerea*, see *S. chersis*.
- cingulata*, see *Phlegethontius*.
- drupiferarum*, 1:327; 10:496, 518; 11:264; 14:309^s, 381^s.
- eremitis*, 10:508; 14:309^s.
- gordius*, 1:327; 11:264.
- insolita*, 5:317; 14:307^s, 339^s.
- kalmiae*, 5:177; 10:508, 515; 14:309^s.
- myron*, see *Ampelophaga*.
- octomaculata*, see *Alypia*.
- pampinatrix*, see *Ampelophaga myron*.
- plota*, see *S. canadensis*.
- quinquemaculata*, see *Phlegethontius celeus*.
- Spiders, 4:114, 133; 8:289; 10:428-29; 12:209, 352; 14:347^t.
- Spilochalcis odontotae*, see *Smicra*.
- Spilomyia fusca*, 5:284; 7:229.
- Spilosoma isabella*, see *Pyrrharcia*.
- latipennis*, 9:455; 14:313^s.
- virginica*, 1:317, 328; 2:83; 4:206; 6:169; 7:228, 304, 305; 9:440, 445; 10:481; 11:264; 13:371^s; 14:313^s, 360^s, 374^t.
- Spinach, insects injurious to;
- beet leaf mining *Anthomyiidae*, 2:46.
- Hydroecia nitela* (syn. *Gortyna*), 1:112; 8:191.
- Mamestra picta*, 5:209.
- spinigera*, *Acronycta*, 11:265.
- spinolae*, *Micropus*, 1:302.
- spinosa*, *Arma*, see *Podisus spinosus*.
- spinosus*, *Podisus* (syn. *Arma spinosa*), 1:331; 2:146; 6:137; 8:238, 300; 9:457; 12:262; 14:314^t, 368^t.
- Spiraea*, insects on;
- Aspidiotus perniciosus*, 11:224, 287.
- Attagenus piceus* (syn. *A. megatoma*), 2:47.
- carpet beetles, 11:173; 13:367^s.
- Hydroecia nitela* (syn. *Gortyna*), 1:112; 8:191.
- Tetranychus telarius*, 5:287.
- red, *Lycia cognataria* (syn. *Amphidasys*) on, 2:101, 226.
- Spiraea tomentosa*, see *Hardhack*.
- Spirobolus marginatus* (syn. *Julus*, *J. americanus*), 1:307; 3:134.
- Spittle insects, 1:285; 4:120; 5:243-306; 7:365, 383; 8:300; 14:355^t, 357^t, 367^s.
- Spix, J. B., cited, 2:116.
- splendoriferella*, *Aspidisca*, 1:166, 330; 8:283; 11:159, 267; 14:371^t.
- spoliana*, *Proteopteryx*, 11:266.
- Spondylidae* injuring apple trees, 11:268.
- Sporotrichum entomophilum* killing *Galerucella luteola*, 12:258, 262.
- globuliferum* affecting chinch bug, 12:262; 13:369^t.
- larvatum*, 4:100.
- Sprague, P. S., cited, 1:184.
- Sprayers, power, for elm leaf beetle, 12:263; 14:350^s.
- Spraying and insecticides, 9:432-36;
- apparatus for, 4:202; 5:161;
- arsenical, of fruit trees while in blossom, 10:497; 14:370^s;
- directions for, 5:162, 239-40;
- nozzles for, 5:161; of grapes, harmless, 8:288, 329; opera-

- tions, 7:343-45; references to literature on, 9:436; with cold water, 7:344; with insecticides, 9:414-18; 10:488.
 for aphids, 5:161, 256, 302; 8:209, 210, 213; 10:428.
 apple scab, 10:488.
 codling moth, 9:417, 433; 10:487.
 curculio, 7:358; 9:333, 417.
 elm leaf beetle, 5:239-40, 301.
 fruit tree insects, 7:359; 14:364.
 larch saw fly, 5:172.
 pear tree blight, 10:488.
 pear tree blister mite, 10:459.
 pear tree *Psylla*, 8:220; 9:329.
 quince tree blight, 10:488;
 scale insects, 6:144;
See also Remedies and preventives.
 Spraying fruit trees while in blossom, apple pests to be combated at this time, 11:120-22; blighting of blossoms, 11:119; deadly to bees, 11:117-18, 122-24; experiments on, 11:117-18, 122-24; interests involved diverse, 11:122; legislation against, 11:119; value of, to fruit grower, 11:120.
spretus, *Caloptenus*, *see* *Melanoplus*.
Melanoplus (syn. *Caloptenus*), 1:7, 195, 304, 332; 2:196; 4:21, 25; 6:152; 7:338; 9:332; 10:439-40 496; 11:271.
 Spring canker worm, *see* Canker worm.
 Spring tails, 1:79; 2:207; 6:173; 11:252; 14:320⁶, 324⁴.
 Spruce, insects injurious to;
Adelges species, 2:184, 185.
 bark boring beetles, 2:53.
Chermes abietis (syn. *Adelges*), 2:185.
strobilobius (syn. *Adelges*, *A. coccineus*), 2:184.
Crypturgus pusillus (syn. *C. atomus*), 4:24.
Dendroctonus rufipennis (syn. *Hylurgus*), 2:54.
Geometrid larvae, 5:260.
Lygaeonematus erichsonii (syn. *Nematus*), 5:171.
Melanolophia canadaria (syn. *Tephrosia*), 4:21.
Notolophus leucostigma (syn. *Orygia*), 2:77.
Pissodes strobi, 9:345.
Polygraphus rufipennis (syn. *Apate*), 2:54.
Thyridopteryx ephemeræformis, 1:84.
Tortrix fumiferana, 4:22.
 Spruce, insects injurious to;
Urocerus albicornis, 13:340², 370⁴, 371⁴.
Xylotrechus undulatus, 4:96.
 black, bark boring beetles injuring, 2:53.
 Norway; insects injurious to;
Caloptenus spretus, 4:25.
Pissodes strobi, 9:344.
 white, bark boring beetles injuring, 2:53.
 Spruce borer, 4:96.
 Spruce bud worm, 4:22.
 spumaria, Cicada, *see* *Philaenus*.
Philaenus (syn. Cicada), 1:285; 5:245.
spureus, *Attagenus*, *see* *A. piceus*.
 Spurge (*Euphorbia cyathophora*), *Ecpantheria* fed on, 12:189.
 Squash, insects injurious to;
Anasa tristis, 2:29; 3:110; 6:169; 8:205; 9:434; 10:494, 504.
Aphis gossypii (syn. *A. cucumeris*), 8:211.
 cut worms, 5:157; 8:236.
Diabrotica 12-punctata, 12:348.
vittata, 8:298; 9:361.
Epilachna borealis, 7:217; 8:126.
Heliothis armiger, 1:120.
Ips quadriguttatus (syn. *I. fasciatus*), 6:188.
Macroductylus subspinosus, 1:229.
Margaronia nitidalis (syn. *Eudiotis*), 11:132.
Melittia satyriniformis (syn. *M. ceto*, *M. cucurbitae*), 2:57-68; 4:138; 5:155, 312, 313; 6:176; 7:371; 9:434; 11:135; 14:319².
Poecilocapsus lineatus, 1:277.
Thrips tabaci, 11:244.
 Squash beetle, striped (*Diabrotica vittata*), 2:231; 14:334⁶.
 Squash bug, 1:39, 47, 63, 306, 316, 322; 2:29, 165; 3:110-12, 147; 4:110, 204; 6:169; 8:205-7, 278, 288; 9:434; 10:494, 497, 504; 11:282, 287; 13:374⁴; 14:345¹, 352², 360⁶, 369³, 373⁴, 380⁶, 382⁵, 386³, 390⁷.
See also *Anasa tristis*.
 Squash Coccinella, 1:322.
 Squash vine borer, 2:28, 57-68; 5:155, 312, 313, 320; 6:176; 7:371; 9:434; 11:135, 282; 14:319², 325², 337⁴, 337³, 342⁵, 360⁶, 362³, 390⁷.
See also *Melittia satyriniformis*.
 Squash vine moth, 11:282.
 Squill, *Sitodrepa panicea* in, 4:92.
 Squirrels, gray, feeding on Cicada pupae, 12:288.
 Stag beetle, 1:330; 5:228; 11:268.
 Stagmomantis carolina (syn. *Mantis*, *M. inquinata*), 4:158, 162, 193; 7:357; 8:300; 14:347³, 358³.

- Stainton, H. T., *Manual of British butterflies and moths* cited, 2:102; 5:200; 11:145; referred to, 11:149; *Tineina of North America* (Clemens) cited, 1: 81, 151, 157; 2: 102; 5:215; 11:157, 160.
- Stål, Carl, *Enumeratio Hemipterorum* cited, 1:264; 2:145; 4:156; 10:432.
- Stalk borer, 1:110-16; 2:226; 3:149; 5:304; 6:176, 178; 7:377; 8:112, 191-92; 10:374, 497; 14:322⁷, 326⁶, 326⁸, 332³, 335⁷, 345³, 354⁷. *See also* *Hydroecia nitela*.
- Standard natural history (Riverside natural history)* cited, 2:165; 4: 80, 107, 120; 5:227, 234, 242; 7:256, 280, 296; 8:152; 9:300, 330; 10:388, 477; 11:109, 127, 134, 175, 240; 12: 191, 218, 235, 238, 264; 13:343⁹.
- Stanford, E. H., insects from, 13: 375⁴.
- Stanley, T. A., insects from, 10:511.
- Staphylinidae, 1:69, 187; 5:303.
- Staphylinus cinnamopterus, 1:188.
- Starr, Francis, insects from, 10:517.
- State entomologist, *Reports*, contents of, 1st, 14:335²; 2d, 14:342²; 3d, 14:351⁸; 4th, 14:357¹; 5th, 14:362¹; 6th, 14:367⁵; 7th, 14:374¹; 8th, 14: 381⁸; 9th, 14:383²; 10th, 14:392⁷; 11th, 14:395³; 12th, 14:398⁸; 13th, 14:399⁸.
- State museum, *see* New York state museum.
- Staudinger, Otto and Wocke, M. F., *Catalogue ou Énumération Méthodique des Lépidoptères qui habitent le Territoire de la Fauna Européenne* cited, 11:146.
- Steam apparatus for spraying, 12: 263.
- Stegania pustularia, *see* Physostegania.
- Steganoptycha claypoliana (syn. *Proteoteras*, *Sericoris* instructana in error), bibliography, 12:214; confused with allied form, 12:215-16; description, 12:216; habits compared with ally, 12:217; in petioles of maple leaves, 12:215; life history, 12:216-17; reference, 10: 483; 11:278, 285; 14:389⁴, 399⁴; remedies, 12:211.
- pyricolana, 11:266.
- Stelidota geminata, 11:285.
- Stellaria, *see* Chickweed.
- Stene ferruginea, *see* Tribolium ferrugineum.
- Stenobothrus, sense organs in, 1:69. aequalis, *see* Orphulella speciosa.
- Stenobothrus bilineatus, *see* Orphulella speciosa.
- curtipennis, 2:197.
- maculipennis, *see* Orphulella pelidna.
- propinquans, *see* Orphulella pelidna.
- Stenocorus putator, *see* Elaphidion villosum.
- Stenocranus dorsalis (syn. *Delphax*), 9:386, 410.
- Stenoma schlaegeri (syn. *Cryptolechia*), 9:456.
- Stephens, J. F., *Illustrations of British entomology—Haustellata* cited, 1: 81; *Manual of British Coleoptera* cited, 7:279.
- Stereum complicatum, fungus on peach, 2:7; 7:374.
- Sternidius alpha, *see* Liopus.
- Stettiner Entomologische Zeitung cited, 2:90, 198, 203; 4:114; 5:164, 201; 7: 225; 11:160, 234, 240.
- Stevia, *Plusia rogationis* (syn. *P. dyaus*) on, 2:94.
- Stewart, H., insects from, 10:517.
- Stibeutes gentilis, 12:211.
- sticticus, *Brachytarsus*, *see* *B. variegatus*.
- Stictocephala inermis (syn. *Smilia*), 1:284; 9:388, 410.
- stigma, *Anisota*, 3:91; 5:197, 199.
- stigmatus, *Cixius*, 9:385.
- Stigmonota interstinctana, *see* *Grapholitha*.
- Stillman, C. L., insects from, 8:298.
- stimulans, *Culex*, 12:321.
- stimulea Empretia, *see* *Sibine*.
- Sibine (syn. *Empretia*), 1:328; 5:186, 188; 6:187; 7:381; 9: 455; 11:264; 13:371⁸; 14:313⁵.
- Stink bugs, 10:431.
- Stink horn fungus, *Silpha americana* on, 11:285.
- Stiretrus anchorage, 2:146.
- Stoll, Casper, *Supplementband zu Cramer's Papillon exotiques* cited, 12:183.
- Stomoxys calcitrans, 1:299; 5:221, 222, 225, 308; 7:333; 8:193; 9: 444; 12:337; 13:372⁹; 14:376⁸.
- cervicola MS., 5:222, 308.
- cornicola MS., 5:220, 222, 308, 310.
- Stone, Dwight, insects from, 8:297; 11:285.
- Stonecrop, *Thrips tabaci* on, 11:244.
- Storm, W. W., insects from, 7:383.
- Strachan, Charles, cited, 13:353⁷.
- Strachia festiva (syn. *S. ornata*), 1: 270.
- histrionica, *see* *Murgantia*.
- ornata, *see* *S. festiva*.

- stramentalis, *Mesographa*, *see* *Evergestis stramentalis*.
- stramentosa, *Gortyna*, *see* *Hydroecia*.
- Hydroecia (syn. *Gortyna*), 1:115.
- stramentalis, *Evergestis* (syn. *Mesographa stramentalis*), 3:140; 9:456; 10:483; 14:313⁷.
- Strategus julianus*, 7:249.
- Stratiomyidae*, 4:174.
- Stratton, A. H., insects from, 10:518; 11:285, 287, 288; 12:360, 361; 13:373⁵.
- Straub, F., insects from, 10:509.
- Strawberry, insects, etc., injurious to;
- Agrotis ypsilon, 8:190.
- Allothia nitida, 1:237; 6:183.
- Anarsia lineatella, 1:155; 7:367, 375; 14:320⁸.
- ?Anisodactylus, 9:431.
- Anthonomus signatus (*A. musculus* in error), 3:139; 9:431.
- Bembidium quadrimaculatum, 3:98, 140, 146; 14:344⁷.
- Bibio albipennis, 2:113.
- Cetonia aurata of Europe, 1:237.
- Colaspis brunnea, 6:183.
- Corimelaena pulicaria, 5:319; 8:213; 14:382⁶.
- Cotalpa lanigera, 6:183.
- Euphoria inda, 1:237.
- Harpalus species ?, 9:462.
- Harpiphorus maculatus (syn. *Emphytus*), 1:42; 13:336⁷.
- Icerya purchasi, 4:187.
- Lachnosterna fusca, 6:183; 9:296.
- species, 11:286.
- Leucania unipuncta, 12:206.
- Lygus pratensis, 5:275; 13:351⁹, 353².
- Macroductylus subspinosus, 9:420.
- Mamestra picta, 5:209.
- Monostegia ignota, 9:431.
- Nectarophora fragariae (as strawberry aphid), 6:183.
- Nysius angustatus, 5:321.
- Otiorynchus ovatus, 6:189; 7:360; 10:416, 418.
- sulcatus, 2:51; 13:374³.
- tenebricosus, 2:52.
- Peridroma saucia (syn. *Agrotis*), 5:205.
- Serica tristis, 14:371⁵.
- Systena frontalis, 4:156.
- taeniata (syn. *S. blanda*), 4:156.
- thousand legged worms, 1:307.
- Strawberry, insects, etc., injurious to;
- Thrips species, 11:249, 250; 14:348⁹.
- Tyloderma fragariae, 6:183; 10:418.
- Typophorus canellus (syn. *Paria aterrima*), 6:183, 188; 7:360; 9:463; 10:495; 14:381².
- Strawberry aphid, 6:183.
- Strawberry crown borer (*Tyloderma*), 1:155; 10:418; 14:320⁸, 329⁷.
- Strawberry crown girdler, 10:418.
- Strawberry leaf folder, 4:16.
- Strawberry leaf roller, neat, 11:266.
- Strawberry root beetles, 2:35.
- Strawberry root borer (*Anarsia*), 1:155.
- Strawberry Thrips, 4:198.
- Strawberry weevil, 10:511.
- Strawberry worm (*Emphytus*), 1:42.
- Strawsonizer, an insecticide machine, 9:417-18.
- Stretch, R. H., *Illustrations of the Zygaenidae and Bombycidae of North America* cited, 5:180; 12:183.
- striata, *Gypona*, 9:410.
- Sciophila, 10:392.
- Thrips, erroneous reference of *T. tabaci*.
- Strickland, R. W., insects from, 12:359.
- Strickland, W. J., insects from, 6:187.
- strigosa, *Thecla*, *see* *T. liparops*.
- strigosus, *Bittacus*, 10:473-80; 12:352; 14:393⁴.
- striolata, *Haltica*, *see* *Phyllotreta vittata*.
- Phyllotreta*, *see* *P. vittata*.
- strobi, *Bythoscopus*, *see* *Phlepsius*.
- Eriosoma, *see* *Lachnus*.
- Lachnus (syn. *Eriosoma*, *Schizoneura*), 3:125; 9:409, 411, 412.
- Phlepsius (syn. *Bythoscopus*), 9:398, 410.
- Pissodes, 3:141; 4:20, 23; 9:344-45; 10:498; 14:383³.
- Schizoneura, *see* *Lachnus*.
- strobilobius, *Adelges*, *see* *Chermes*.
- Chermes (syn. *Adelges coccineus*, *Chermes atratus*, *C. laticis*), 1:46; 2:183, 184, 185, 187.
- Strong, Joseph, insects from, 11:288.
- Strong, W. R., insects from, 11:286; 13:371³.
- Strymon titus (syn. *Thecla*), 7:219.
- Stuart, C. W., reference, 13:359².
- Sturgis, Fred, insects from, 10:516.
- Sturgis and Britton cited, 12:254.
- Sturm, Jacob, *Deutschlands Fauna* cited, 2:136.
- stygius, *Asellus*, 9:348.

- Stylopidae, parasitic on wasps and bees, 1:79.
- Stylopyga orientalis, *see* Periplaneta.
- subarmatus, Bruchus, erroneous reference of B. obtectus.
- subbifasciata, Coelidia, *see* Jassus olitorius.
- subellipticus, Bruchus, *see* B. obtectus.
- subfurcata, Panorpa, 10:478.
- subgothica, Agrotis, *see* Feltia.
- Feltia (syn. Agrotis), 1:303, 340; 10:377, 482, 519; 12:360.
- subjuncta, Hadenia, *see* Mamestra.
- Mamestra (syn. Hadenia), 1:58; 8:235; 11:265.
- subsericea, Formica, 12:182; 14:399².
- subsignarius, Ennomos (syn. Geometra niveosericearia), 1:329; 2:69, 76, 77; 11:121, 266.
- subspinosus, Macroductylus, *see* Macroductylus subspinosus.
- Melolontha, *see* Macroductylus.
- succinctus, Capsus, *see* Largus.
- Cimex, *see* Largus.
- Largus (syn. Capsus, Cimex, C. rubrocinctus, Lygaeus), 2:164-67; 6:183; 14:329⁶, 342³.
- Lygaeus, *see* Largus.
- Suctoria, 4:190, 191.
- Sugar mite, 3:129; 5:294; 8:293.
- suis, Haematopinus, *see* H. urius.
- sulcans, Anthomyia, *see* Pegomyia betae.
- sulcata, Phasgonophora (syn. Smicra gigantea), 1:86.
- sulcatum, Orthosoma, *see* O. brunneum.
- sulcatus, Otiorhynchus, 2:51; 10:418; 11:269; 13:374³.
- sulcifrons, Tabanus, 9:462.
- Sulfur, plugging trees with, 5:300; 10:495; 14:353³, 381², 390⁷.
- sulphurea, Arphia, 9:330.
- Sumac, insects affecting;
- Datana conspicua, 7:382.
- Pemphigus rhois (syn. Melaphis), 10:503; 12:290; 14:385³.
- Poecilocapsus lineatus, 1:277.
- Pulvinaria innumerabilis, 6:143.
- smooth, insects affecting;
- Macroductylus subspinosus, 1:230.
- Pemphigus rhois, 12:291.
- staghorn, insects affecting;
- Macroductylus subspinosus, 1:230.
- Orthaltica copalina, 5:271.
- Pemphigus rhois (syn. Melaphis), 3:142; 12:291.
- Sumac gall aphid, 10:503; 12:290-92; 14:399⁷.
- Summers, H. E., cited, 13:353³.
- Sun [New York] cited, 8:141, 283; 14:371³.
- Sunday morning press [Albany] cited, 14:310³.
- Sunflower, insects affecting;
- Murgantia histrionica, 2:56.
- Trypeta longipennis, 3:137.
- wild, Ecpantheria ocularia (syn. E. scribonia) feeding on, 12:189.
- supernotatus, Psenocerus, 1:321, 331; 3:138; 11:268.
- surinamensis, Silpha, 12:361.
- Silvanus, 1:40, 330; 6:107, 188; 7:331; 9:308, 462; 10:495; 11:267; 12:361; 13:373²; 14:380².
- Survey of the Adirondack region of New York, Report (Colvin) cited, 2:90.
- suturalis, Hispa, erroneous reference of Odontota dorsalis.
- Idiocerus, 9:399.
- Odontota, erroneous reference of O. dorsalis.
- Tomicus, 2:54.
- suturellus, Dysdercus (syn. Pyrrhocoris), 2:166; 6:183.
- Pyrrhocoris, *see* Dysdercus.
- Swallow tail, yellow banded, 9:336; 10:498; 14:383⁷.
- Sweet, W. W., insects from, 5:325.
- Sweet alyssum, *see* Alyssum, sweet.
- Sweet brier galled by Rhodites, 11:281; 14:390².
- Sweet flag, Sitodrepa panicea in, 4:92.
- Sweet pea, *see* Pea, sweet.
- Sweet potato beetle, 14:366¹.
- Sweet potato weevil, 3:154; 14:347².
- Swine feeding on army worms, 12:208.
- Swinnerton, H. U., insects from, 4:205; 5:324, 325; 8:296.
- Swiss Cross, abstracts from, 4:195; 9:448; 14:347⁸.
- Sycamore, insects injurious to;;
- Corythuca ciliata, 4:107, 108.
- Halisidota tessellaris, 5:308.
- Tremex columba, 2:227; 4:38.
- sycophanta, Anthonomus, 5:173.
- Calosoma, 10:491; 14:379⁷.
- sylvatica, Clisiocampa, *see* C. distria.
- sylvaticana, Argyrolepia, *see* Ypsolophus pometellus.
- Symmerista albifrons (syn. Edema), 9:456; 14:313³.
- Symphoricarpon racemosus, *see* Snowberry.

- Sympiezus uroplatae*, 12:267.
Synchlora albolineata, *see* *S. glaucaria*.
glaucaria (syn. *Aplodes*, *A. rubivora*, *Eunemoria gracilaria*, *Synchlora albolineata*, *S. rubivora*, *S. rubivoraria*), 8:105, 129-33, 285; 10:497; 14:372³, 382⁷.
rubivora, *see* *S. glaucaria*.
rubivoraria, *see* *S. glaucaria*.
Synchroa punctata, 11:269.
Synelys enucleata (syn. *Acidalia*), 10:483.
Syneta albida, 11:269.
Syngamus trachealis, 3:142; 14:343⁷, 343⁸, 345⁷.
synochitis, *Erastia*, 10:482.
Syracuse journal cited, 11:182.
Syracuse morning standard cited, 6:178; 14:327¹.
Syracuse union cited, 10:500; 14:384⁶.
Syringa, insects injurious to;
Mytilaspis pomorum, 11:287.
Podosesia syringae, 9:338.
Syringa borer, 9:338; 10:498; 14:383⁷.
syringae, *Podosesia*, 9:338, 461; 10:498; 14:383⁷.
Syrphid larvae preying on plant lice, 12:350; 13:362⁶.
Syrphidae, rat tail larvae of, 6:173; 8:287; reference, 1:168; 5:284; 7:219; 10:377; 11:106; scarcity of, 12:308; species treated of, 1:211-16; 2:116-17; 7:228-34; studies in, 4:174; 7:229.
Syrphus arcuatus, 11:284.
Syrphus flies, 1:302, 313; 2:186; 3:116; 7:363; 9:440; 11:276.
Systasia (syn. *Lintneria*), 7:371.
Systema, red headed, (*S. frontalis*), 4:156.
Systema bitaeniata, *see* *S. taeniata*.
blanda, *see* *S. taeniata*.
elongata, 9:344.
frontalis, 4:156; 9:297, 343, 344, 422, 463; 10:498; 14:383³.
hudsonias, 13:373⁹.
ligata, *see* *S. taeniata*.
marginalis, 4:156.
mitis, *see* *S. taeniata*.
ochracea, *see* *S. taeniata*.
taeniata (syn. *S. bitaeniata*, *S. blanda*, *S. ligata*, *S. mitis*, *S. ochracea*), 4:155-57, 198, 207; 9:344, 375; 14:348⁸, 358².
tabaci, *Thrips*, *see* *Thrips tabaci*.
Tabanidae, 4:174; 6:116; 7:219.
Tabanus, Linnean genus, 1:191.
atratus, 7:364; 11:285; 13:372⁷; 14:366⁹.
bovinus, 4:199; 6:115.
lineola, 9:462.
reinwardtii, 13:371⁷.
sulcifrons, 9:462.
Taber, W. F., insects from, 10:516.
Tachina mella (syn. *T. orgyiae*), 2:78.
orgyiae, *see* *T. mella*.
species parasitic on bag worm, 1:87; on cut worms, 8:238; on hag moth caterpillar, 5:192; on vagabond *Crambus*, 1:145-46; on violet *Nephelodes*, 1:103, 110.
vivida, *see* *Bombyliomyia abrupta*.
Tachina fly, 11:138; 12:210.
red tailed, 12:210.
yellow tailed, 12:210.
Tachinidae, beneficial, 8:275; parasitic on cut worms, 5:323; on 17-year *Cicada*, 2:178; reference, 1:145; 5:285.
Tachypterus quadrigibbus (syn. *Anthonomus*), 1:60, 331; 4:201; 6:174; 9:419; 11:270; 14:324⁶.
Tachys incurvus, 5:303; 14:354⁴.
taeniata, *Systema* (syn. *S. bitaeniata*, *S. blanda*, *S. ligata*, *S. mitis*, *S. ochracea*), 4:155-57, 198, 207; 9:344, 375; 14:348⁸, 358².
Taeniocampa alia (syn. *Orthosia instabilis*), 1:328; 11:265.
pacifica, 11:265.
rufula, 11:265.
taeniopus, *Oscinis*, 1:225.
taeniorhynchus, *Culex* (syn. *C. damnosus*), 12:321.
Taft, L. R., and *Davis*, G. C., cited, 12:254.
talidiformis, *Crambodes*, 10:482.
Tamarack, *see* *Larch*.
tamarisci, *Nanophyes*, 4:154.
Tamarix, *Nanophyes tamarisci* infesting, 4:154.
Tanacetum, *see* *Tansy*.
Tanner, M., insects from, 13:371⁶.
Tansy, insects frequenting;
Coleothrips trifasciata, 1:303.
Phytomyza chrysanthemi (*P. lateralis* in error), 4:73.
Poecilocapsus lineatus, 1:277.
tarandi, *Oedemagena*, 6:111.
Taraxacum, *see* *Dandelion*.
tarquinius, *Feniseca*, *see* *Fentseca tarquinius*.
tarsata, *Hylemyia*, 1:171.

- Tartarian honeysuckle, insects injurious to;
saw fly, 1:42.
Zaraea inflata, 1:42.
- Tartarian honeysuckle berries, army worm moths feeding on, 12:202, 203.
- Taschenberg, E. L., *Brehms Tierleben, Neunter Band, Die Insekten, Tausendfüsser und Spinnen* cited, 11:175, 178, 241, 250.
- Tassel worm, 1:121.
- tau, Aglia, of Europe, 5:188; 13:343^s.
- taurina, Ceresa, 1:331; 11:270.
- Taylor, A. C., insects from, 8:299.
- Taylor, R. E., insects from, 10:510.
- Telamona, genus defined, 9:390.
ampelopsidis, 9:391.
concava, 9:390.
coryli (syn. *T. tristis*), 9:391, 410.
fagi, *see Heliria scalaris*.
fasciata (syn. *T. unicolor*), 9:390, 410.
monticola (syn. *T. querci*), 9:391, 410.
querci, *see T. monticola*.
reclivata, 9:391.
tristis, *see T. coryli*.
unicolor, *see T. fasciata*.
- telarius, Tetranychus, 2:31; 3:129; 4:203; 5:287, 321; 6:159; 8:255; 9:432; 11:249; 14:341^s, 350^s, 351^s.
- Telea polyphemus, 2:77; 3:140; 9:456; 10:481, 493, 515; 11:265, 285; 13:350^s; 14:313^s, 380^s.
- Telenomus, parasite of Orgyia (Notolophus) and Anasa eggs, 2:79; 3:111.
- Telephoridae, 4:85; 8:174.
- Telephorus larvae from a well, 8:174.
- Telephorus bilineatus, 8:109, 173-74, 298; 10:497; 14:382^s.
carolina, 8:173.
- Temnostoma alternans, 7:229.
- tenax, Eristalis (syn. *Helophilus*), 1:212; 6:188; 7:229, 233, 363, 382; 9:462; 10:510, 519; 11:284; 13:372^s; 14:366^s.
Helophilus, *see Eristalis*.
- tenebrioides, Aspidiotus, 10:518; 11:221.
Otiorynchus, 2:52.
- Tenebrio molitor, 2:138; 4:200, 207; 8:110, 176-77, 299, 300; 9:308, 442; 10:497; 14:350^s, 375^s, 382^s.
obscurus, 8:110, 177; 9:307-9, 442, 463; 10:498; 14:375^s, 383^s.
- tenebrioides, Zabrus (syn. *Z. gibbus*), of Europe, 3:99.
- Tenebrioides corticalis, 11:267.
mauritanica, 4:207; 12:362.
nana (syn. *Trogosita*), 1:330; 11:267.
- Tenebrionides, 1:69; 2:136, 139; 4:23; on apple, 11:269.
- tenera, Cycnia (syn. *Euchaetes collaris*), 9:455; 14:313^s.
- Tennessee, Report on the economic entomology of (Doran), cited, 7:256.
- Tennessee agricultural experiment station, Bulletin cited, 12:273; 13:353^s.
- Tent caterpillars, *see* Apple tree tent caterpillar, Forest tent caterpillar.
- Tenthredinidae, 1:42, 249; 3:87-90; 4:44; 5:164, 173, 197; 7:223, 238, 354; 13:335^s-37^s.
- Tenthredo rufopectus (syn. *Allantus*) bibliography, 13:335^s; boring habits of larva, 13:336^s; description, 13:336^s-37^s; distribution, 13:337^s; injuring currants, 13:335^s; life history and habits, 13:337^s; reference, 12:308, 359; 14:399^s, 400^s; remedy, 13:337^s.
- Tephritis melliginis, *see Rivellia viridulans*.
onopordinis, 1:49, 52.
- Tephroclystis luteata (syn. *Eupithecia*), 4:20, 21.
- Tephrosia, scent organs, 1:72.
canadaria, *see Melanolophia*.
- Teras cinderella, *see T. minuta* var. malivorana, *see T. minuta*.
minuta (syn. *T. malivorana*), 1:329; 11:121, 266.
var. cinderella (syn. *T. cinderella*), 1:329; 11:266.
oxycoccana, 11:266.
- terentius, Nisoniades, *see Thanaos*.
Thanaos (syn. *Nisoniades*), 1:334.
- tergata, Cecidomyia, *see Diplosis*.
Chlorotettix (syn. *Bythoscopus tergatus*), 9:398, 410.
Diplosis (syn. *Cecidomyia*), 1:297.
- tergatus, Bythoscopus, *see Chlorotettix tergata*.
- Termes divinatorium, *see Atropos divinatoria*.
flavipes, 9:454; 11:272; 14:312^s.
- terminalis, Rhogas, 12:192, 211.
- terminatus, Scymnus, 2:186.
- Termitidae, 4:176.
- ternarius, Bombus, 11:104.
- ternata, Choisya, 9:461.
- terrestris, Lumbricus (earth worm), 7:378; 14:322^s.
- terricola, Bombus, 11:104.
- tesselatum, Anobium, *see Xestobium rufovillosum*.

- tessellaris, *Halisidota*, 5:308; 10:481; 14:356⁵.
- tessellata, *Agrotis*, *see* *Carneades*.
Carneades (syn. *Agrotis*, *A. nigricans* var. *maizi*), 7:375, 382; 11:265; 14:321⁹.
Eriosoma, *see* *Pemphigus*.
Pemphigus (syn. *Eriosoma*, *Schizoneura*), 2:181; 3:125; 4:208; 8:109, 170; 9:346-47, 408, 411, 413, 463; 10:498; 14:383⁴.
Pyrgus, *see* *Hesperia montivaga*.
Schizoneura, *see* *Pemphigus*.
- testacea, *Clastoptera*, *see* *C. obtusa*.
- testaceum, *Tribolium*, *see* *T. ferrugineum*.
- tethys, *Catodaulis* (syn. *Daimio*), 1:336.
Daimio, *see* *Catodaulis*.
- tetracantha, *Homalomyia*, 1:171.
- Tetracis crocallata, 10:483.
lorata, *see* *Sabulodes*.
- tetragrammicus, *Myrmeleon*, 11:240.
- Tetramorium caespitum, 11:113.
- Tetranychus telarius, 2:31; 3:129; 4:203; 5:287, 321; 6:159; 8:255; 9:432; 11:249; 14:341⁶, 350⁹, 351⁴.
- Tetrastichus fraterna (syn. *Trichogramma*), 1:303; 2:79.
orgyiae, 2:79.
parasitic on Cecidomyia, 4:27, 205.
species, 11:165.
- Tettigonia, three dotted, 9:395.
- Tettigonia bifida, 9:395.
octolineata, *see* *Gypona*.
rosae, *see* *Typhlocyba*.
tripunctata, 9:395.
vitis, *see* *Typhlocyba comes* var.
- Tettigonides, 9:396, 402.
- Tettigoniidae, Fitch species, 1:300.
- Tettix cucullata, 2:197.
granulata, 2:197.
ornata, 2:197.
sordida, 2:197.
species, 9:330.
triangularis, 2:197.
- Texas cattle tick, 6:156.
- Texas fly (*Haematobia serrata*), 5:220, 226, 307, 308; 7:333; 14:356².
- texensis, *Achorutes*, *see* *Schoturus*.
Schoturus (syn. *Achorutes*), 2:206.
- textor, *Hyphantria*, *see* *H. cunea*.
- textula, *Heterogenea*, *see* *H. flexuosa*.
- Thacker, W. A., insects from, 12:360.
- Thalessa atrata (syn. *Rhyssa*), 2:227, 230; 4:37, 40, 41; 5:305; 9:454; 10:509; 11:279, 284; 13:367⁹, 371⁵; 14:332⁵, 333⁷, 335⁸, 361⁹, 397⁶.
- lunator (syn. *Ichneumon*, *Pimpla*, *Rhyssa*), 2:227; 4:35-41, 205; 5:305, 311; 6:171, 186; 8:163-66; 9:454; 10:497; 11:279, 284; 12:262, 359; 14:332⁵, 337², 355³, 357⁴, 382⁴, 389⁶.
- nitida, 4:41.
- nortoni, 4:41.
- quebecensis, 4:41.
- Thamnotettix, clitellarius (syn. *Bythoscopus*), 9:398, 410.
- Thanaos, 14:336⁴.
afranius (syn. *Nisoniades*), 14:307¹, 321⁴.
ausonius (syn. *Nisoniades*), 9:449; 14:306³, 311⁷.
brizo (syn. *Nisoniades*), 1:336, 337; 7:375; 14:321⁴.
funeralis (syn. *Nisoniades*), 1:333, 334, 336; 7:375; 14:321⁴.
horatius (syn. *Nisoniades*, *N. virgilius*), 1:334.
icelus (syn. *Nisoniades*), 1:335, 336, 337; 6:180; 7:375; 9:449; 14:306⁷, 311⁴, 321⁴, 327⁷.
juvenalis (syn. *Nisoniades*), 1:333, 334, 335, 338; 6:180; 7:375; 14:321⁵, 327⁷.
lucilius (syn. *Nisoniades*), 1:336; 7:375; 9:449; 14:306³, 311⁷, 321⁵.
martianus (syn. *Nisoniades*), 1:334; 7:375; 14:321⁴.
naevius (syn. *Nisoniades*), 1:333, 334, 336; 6:180; 14:307², 327⁷.
pacuvius (syn. *Nisoniades*), 7:375; 14:307², 321⁴.
persius (syn. *Nisoniades*), 1:334, 335, 336; 4:137; 7:375; 9:449; 14:321⁴, 350², 357⁹.
petronius (syn. *Nisoniades*), 1:334; 6:180; 14:307², 327⁷.
propertius (syn. *Nisoniades*), 1:334, 335; 6:180; 14:327⁶.
somnus (syn. *Nisoniades*), 1:336; 6:180; 14:306³, 327⁷.
terentius (syn. *Nisoniades*), 1:334.
tristis (syn. *Nisoniades*), 14:321⁴.
- Thanasimus dubius, 4:142; 14:350³, 357⁹.
- tharos, *Phyciodes*, 4:137.
- Thaxter, Dr Roland, cited, 1:99; 11:242, 250; insects from, 7:382.
- thaxteri var. *lambda*, *Xylina*, 7:375; 14:321⁹.
- Thecla, streaked, 1:327; 11:264.

- Thecla arsace*, see *Incisalia irus*.
calanus, 11:264.
henrici, see *Incisalia irus*.
irus, see *Incisalia*.
liparops (syn. *T. strigosa*), 1:327; 4:137; 7:219; 11:264; 14:357^s.
strigosa, see *T. liparops*.
titus, see *Strymon*.
- Theclinae*, sexual character in, 2:214.
- Thelaxes*, 3:151.
ulmicola, see *Colopha*.
- Thelia*, two spotted, 9:392.
- Thelia bimaculata*, 1:284; 9:392.
binotata, see *Enchenopa*.
crataegi, 1:284; 9:392; 11:270.
univittata, 1:284; 9:392.
- Thelyphonus giganteus*, 6:190.
- Theobald, F. V., *An account of British flies* cited, 8:141; 10:388; 11:162.
- Theoclytes chlorophaea* (syn. *Mantis*), 4:162.
- Theriopectes cinctus*, 13:372^s.
- Thermobia furnorum* (syn. *Lepisma domestica*), 4:179; 6:190; 10:519.
- theseusalis*, *Botis*, see *Pyrausta*.
Pyrausta (syn. *Botis*), 10:483.
- Thistle, insects affecting;
Blissus leucopterus, 2:149.
Hydroecia cataphracta (syn. *Gortyna*), 1:115.
sow, *Phytomyza chrysanthemi* (*P. lateralis* in error) mining, 4:77.
- thomae*, *Sciara*, 5:264; 10:390.
- Thomas, A. T., insects from, 3:141.
- Thomas, Cyrus, cited, 1:116, 228, 233, 239, 264; 2:57, 89, 126, 149, 180, 188; 4:20, 158; 5:207, 227, 246, 253; 6:147; 7:255, 279; 9:317; 10:408; 12:191, 235, 237, 243, 290, 291; 13:352ⁱ; quoted, 12:314.
- Thomas, G. H., insects from, 6:188.
- Thomas, R. W., insects from, 6:189.
- Thompson, E. H., cited, 12:193.
- Thompson, Mrs G. B., insects from, 13:375^s.
- thoracica*, *Cecidomyia*, see *Diplosis*.
Chrysopila, 9:462.
Clisiocampa, see *C. disstria* var.
Diplosis (syn. *Cecidomyia*), 1:297.
Oedionychis, 13:373^s.
Silpha, of Europe, 4:180.
- thoracicus*, *Anthrenus*, see *A. scrophulariae* var.
- Thorn, Samuel, insects from, 11:285.
- Thorn, black, Quince *curculio* on, 2:11.
- Thorn apple leaf miner, 1:330; 11:267.
- Thorn bush tree hopper, 1:284; 11:270.
- Thorn *curculio* (*Anthonomus crataegi*), 1:331; 11:270.
- Thorn leaf *Aphis*, 9:406.
- Thorybes electra* (syn. *Eudamus*), 1:338; 6:179; 14:307^s, 327^s, 336^s.
- Thousand legged worms, attacking garden vegetables, 1:307; attacking geraniums, 5:307; attacking lilies, 9:372, 441; beneath carpets, 5:296; in greenhouses, 12:300-3, 349; in nursery, 2:229; in potatoes, 3:131-33; 10:445-49, 487, 489; reference, 4:128; 8:199, 231; 14:333^s, 355^s, 375^s, 377^s, 391^s; remedies for, 3:134-35.
- thrasso, *Anchylodes*, 1:336.
- Thricolepis simulator*, 11:269.
- Thripidae, characters of, 11:247; classification, 1:79; 2:31; 8:254; general habits, 2:31; literature of, 11:247-50; reference, 1:303; 14:348^s; species treated of, 11:241-47; studies in, 2:56.
- Thrips, 11:247; 14:354ⁱ.
three banded, 1:303.
- Thrips *allii*, see *Thrips tabaci*.
cerealium, 1:303; 11:248, 249.
secalina, 11:246.
species attacking cabbage, 9:445; depredating on apple tree, 1:332; fungus attacking, 7:316; injuring grass, 3:97-98; 5:304; in *Lasioptera* galls, 4:66; 11:249; in strawberry blossoms, 4:198; on wheat, 1:303; reference, 7:366, 384; 9:377; 11:241, 242, 249.
striata, erroneous reference of *T. tabaci*.
tabaci (syn. *T. allii*; *T. striata* and *Limothrips tritici* in error), 11:241-47; 12:357; 13:363^s; 14:376^s, 395^s, 400^s.
tritici, 1:303; 11:248, 249, 250, 271.
- "Thrips" (leaf hoppers), attacking grapes, 5:302; 8:253-56; 9:430; in green houses, 2:29-30; 5:302; on rose leaves, 8:256-57; remedies, 2:29-30, 38.
- Throop, Mrs C. W., insects from, 11:288.
- Thrushes feeding on *Cicada*, 12:289.
- thuiella*, *Bucculatrix*, 1:162.
- Thuja*, *Bucculatrix thuiella* on, 1:162.
occidentalis, see *Arbor vitae*.

- Thunberg, C. P., *Göttingische gelehrte Anzeigen unter Aufsicht der Königl. Gesellschaft der Wissenschaften* cited, 12:264.
- Thunbergia, *Tetranychus telarius* on, 5:287.
- thyatiroides, *Plusia*, 10:377.
- Thymelicus genus, 7:371.
lineola (syn. *Hesperia*), 4:127.
- Thyreus abbotii, 2:214; 5:175, 177, 306, 324; 6:187; 7:381; 9:451, 461; 10:502, 509; 11:280; 12:359; 13:371⁶; 14:312², 355³, 385⁴, 390⁴.
- thyridopterigis, *Hemiteles*, 1:85.
- Thyridopteryx ephemeriformis (syn. *Aegeria*, *Hymenopsyche coniferarum*, *Oiketicus*, *Sphinx*), bag or larval case, 1:81-83; bibliography, 1:81; classification of, difficulties in, 1:83-84; detailed account, 1:81-87; distribution, 1:84; food plants, 1:84, 328; 4:20, 21; general account (abstract), 4:203-4; 5:321; 6:177; 10:494; natural enemies, 1:84-87; on quince, 7:306; oviposition of, 2:74-75; reference, 1:81; 6:187; 7:381; 9:440; 10:509; 11:264, 285; 14:326², 335³, 341⁵, 351⁷, 374⁵, 380⁷; remedies, 1:33, 57, 87; sense organs of, 1:72-73; 2:74-75.
- Thysanoptera, 1:79; 2:31; 8:254; 9:445; 11:241-50, 271.
- Thysanura, 1:79; 2:287; 4:167; 10:513, 519; 11:251-54, 272; 14:308⁵.
- thysbe, *Hemaris* (syn. *Sesia*), 10:507; 14:309⁸.
var. *ruficaudis*, *Hemaris* (syn. *Sesia uniformis*), 10:494; 14:380⁷.
Sesia, see *Hemaris*.
- tibialis, *Chloropisca* (syn. *Oscinis*), 1:225.
Oscinis, see *Chloropisca*.
Phanerotoma (syn. *Sigalphus*), 11:156.
Sigalphus, see *Phanerotoma*.
- tibicen, *Cicada* (syn. *C. pruinosa*), 1:331; 4:196, 202; 6:189; 7:383; 9:410; 10:517, 518, 519; 11:270; 12:274, 363; 13:374⁶; 14:348³, 350³.
- Tibicen rimosa, see *Cicada*.
septendecim, see *Cicada*.
- tibullus, *Nisoniades*, 1:335.
- Ticks, 1:49, 62; 5:290.
- Tiger beetle, 12:209, 320.
- Tilia, *Cecidomyia balsamicola* on, 4:63.
americana, see *Linden*.
- tiliae, *Coccus*, see *Lecanium tulipiferae*.
Lecanium, see *L. tulipiferae*.
- tiliaria, *Erannis* (syn. *Hybernia*), 1:72, 329; 11:266.
Hybernia, see *Erannis*.
- tilicola, *Sciara*, 5:265.
- Tillinghast, F. N., insects from, 6:190.
- Timber beetles, 4:26.
- Timber borers, 4:195.
- Times* [Albany] cited, 7:359; 8:290; 9:454, 459.
- timida MS., *Anthomyia*, 1:195.
- Timothy, insects injurious to;
Blissus leucopterus, 13:361⁷.
Bryobia pratensis, 7:322.
Leucania albilinea, 4:56; 10:492; 14:379⁹.
species, 9:457; 14:314².
unipuncta, 12:197, 309.
Pyralis costalis, 11:150.
Thrips species, 5:153, 304.
wire worms, 8:197.
- Tinea granella*, see *Sitotroga cerealella*.
iridella, see *Incurvaria acerifoliella*.
pellionella, 1:64; 2:44; 4:140, 174; 5:187; 11:276; 14:350³, 357⁹, 388⁵.
- Tineid mining in hemlock, 4:22, 59-60; on elms, 9:462.
- Tineidae, number of species on oak, 1:4; reference, 4:165, 181; species depredating on the apple tree, list of, 1:329-30; 11:267; species treated of, 1:151-67; 2:102-10; 5:215-19, 260-61; 8:133-40; 10:377-86.
- Tingis arcuata, see *Corythuca*.
ciliata, see *Corythuca*.
cydoniae, 1:311.
hyalina, see *Corythuca ciliata*.
pyri, of Europe, 1:311.
- Tingitidae, 4:107-9.
- Tip worms, 10:373.
- Tiphia inornata*, 8:238.
- Tipula*, a Linnean genus, 1:191.
- Tipulae*, 10:474.
- Tipulid* larvae, 5:325; 11:283.
- Tipulidae*, 1:297; 7:210, 316; 9:462.
- tipuliformis, *Aegeria*, see *Sesia*.
Sesia (syn. *Aegeria*), 1:8; 2:60, 216.
- Tischeria malifoliella*, bibliography, 11:160; distribution, 11:162; food plants, 11:162; injuries, 11:161; insect described, 11:160; life history, 11:161; mines, 11:161; reference, 1:330; 3:137, 140; 6:187; 7:354; 9:445, 462; 11:267; 12:357; 14:376⁷, 395⁹; remedy, 11:162.
- titea, *Rhaphidodemas* (syn. *Phlgalia cinctaria*), 1:329; 11:266.
- titillator, *Monohammus*, erroneous reference of *M. confusor*.

- titus, Strymon (syn. Thecla), 7:219.
Thecla, *see* Strymon.
- tityrus, Epargyreus (syn. Eudamus), 1:337.
Eudamus, *see* Epargyreus.
- tityus, Dynastes (syn. Geotrypes, Scarabaeus), 2:227; 5:227-31, 321; 7:246-55; 9:342, 440, 444, 463; 10:498; 11:274; 14:332^s, 341^s, 362^s, 374^s, 376^s, 383^s, 387^s.
Geotrypes, *see* Dynastes.
Scarabaeus, *see* Dynastes.
- Tmetocera ocellana, food plants, 1:329; 7:355; ravages, 4:14; 7:216, 306-7, 363; 8:124; 9:296, 373; reference, 4:206; 7:382; 8:281, 283, 288, 297; 9:293, 440, 462; 10:483, 490, 510, 516; 11:121, 156, 266; 12:307; 14:366^s, 370^s, 371^s, 373^s, 374^s, 378^s, 379^s; remedies, 7:307; 8:218, 219; 10:488.
- Toad eating army worm, 12:193, 209.
- Toad spittle, 4:120.
- Tobacco, insects injurious to;
cut worms, 5:159; 8:236.
Dynastes tityus, 5:231, 321.
Heliothis armiger, 1:120.
Julidae, 10:519.
Lathridius pulicarius, 6:183.
Lygus pratensis (syn. L. lineolaris), 6:189; 13:352^s.
Melanoplus femur-rubrum, 6:152.
Peridroma saucia (syn. Agrotis), 5:200.
Phlegethontius carolina (syn. Sphinx), 8:242.
celeus (syn. Sphinx quinquemaculata), 7:379; 8:242.
Sitodrepa panicea, 4:88.
Thrips tabaci, 11:245.
- Tobacco worm, *see* Tomato worm.
- Tolyte laricis (syn. Gastropacha, G. velleda var. minuta, Planosa), 1:87-99; 4:20, 21; 14:335^s.
velleda (syn. Planosa), 1:98, 328; 9:455; 11:265; 14:313^s.
- Tomato, insects injurious to;
Agrotis ypsilon, 1:58.
Aphis nerii, 3:122.
silybi, 3:122.
solannina, 3:122.
Coptocycla clavata, 5:322; 6:126.
cut worms, 1:58, 64; 8:236.
Epicauta cinerea, 6:134; 12:354; 14:328^s.
vittata, 6:132, 182.
Epitrix cucumeris, 13:373^s.
Heliothis armiger, 1:120; 7:382.
- Tomato, insects injurious to;
Hydroecia nitela (syn. Gortyna), 1:112; 3:135, 140, 148; 8:191; 14:345^s.
Nectarophora solani (syn. Siphonophora), 3:122.
Phlegethontius celeus (syn. Sphinx quinquemaculata), 1:73; 7:379.
Plusia brassicae, 2:91.
Rhopalosiphum solani (syn. Megoura) 3:121, 149.
Thrips tabaci, 11:245.
- Tomato rot, 4:185.
- Tomato sphinx, *see* Tomato worm.
- Tomato worm (Heliothis armiger), 1:120.
- Tomato worm, or tobacco worm, 1:56, 119, 322; 5:186; 7:379; 13:371^s, 14:323^s.
- tomentosus, Eupogonius, 11:269.
Necrophorus, 5:289.
- Tomicus balsameus (syn. Pityogenes howardi, Tomicus species), 2:54.
curvidens, of Europe, 2:54.
laricis, of Europe, 2:54.
mali, *see* Monarthrum.
species, *see* T. balsameus.
suturalis, 2:54.
typographus (syn. Bostrichus), 2:55.
- Tomocerus plumbeus (syn. Podura bicolor), 2:205, 244.
- Tompkins, G. O., insects from, 4:208.
- Tompkins, S. G., insects from, 13:374^s.
- torpidus, Agrilus, *see* A. anxius.
- Tortoise beetles, 1:33, 57; 4:196.
clubbed, 5:322; 6:126-27; 13:374^s; 14:341^s, 367^s.
golden, 1:306; 6:125-26; 7:276; 14:320^s, 367^s.
- Tortricid moth, 11:278.
- Tortricidae, 1:57, 329; 4:151, 152; 5:213; 10:483; 11:152-56, 266; 12:214, 217.
- Tortricidia fasciola (syn. Lithacodes), 1:328; 9:456; 11:264; 14:313^s.
- Tortricodes bifidalis, *see* Gaberasa ambigualis.
indivialis, *see* Gaberasa ambigualis.
- Tortrix fumiferana, 4:20, 22; 10:483.
furvana, *see* Cacoecia argyros-pila.
v-signata, *see* Cacoecia argyros-pila.
- Torymus pallidicornis, 11:164.
species, 4:27, 205; 11:165.
- Tough, William, insects from, 7:383.

- Townsend, C. H. T., cited, 10:417; 11:181, 222, 232, 250; 12:192, 238; 13:353⁴.
- townsendi, Oiketicus, 11:264.
- Toxares triticaphis, 5:253.
- toxoneura, Sciara, 10:388.
- trachealis, Syngamus, 3:142; 14:343⁷, 343⁸.
- Tradescantia, *see* Wandering Jew.
- Tragocephala infusata, *see* Chortophaga viridifasciata.
- radiata, *see* Chortophaga viridifasciata.
- viridifasciata, *see* Chortophaga.
- Tragopa dorsalis, *see* Acutalis.
- Trail, J. W. H., *Gall-making Diptera of Scotland*, cited, 11:162.
- Train, A. L., insects from, 8:297.
- transversa, Drosophila, 1:218.
- transversata, Eutrapela, *see* Sabulodes.
- Prochoerodes, *see* Sabulodes.
- Sabulodes (syn. Eutrapela, Prochoerodes), 8:287; 10:483; 11:284; 14:372⁸.
- transversoguttata, Coccinella (syn. C. 5-notata), 1:318.
- Trapezonotus species, 11:270.
- Traumatomyia prodigiosa, 4:72.
- Treat, Mrs M. B., cited, 1:116; 5:193; 8:129; 12:229.
- tredecim, Cicada (race of C. septendecim), 1:331; 2:169; 4:175; 10:424, 500; 11:270; 12:277, 278; 14:384⁸.
- Tree hopper, 1:79; 4:190; 5:245; 7:360; 8:294; 14:317², 365¹.
- Buffalo, 1:284, 315, 318, 331; 4:146, 208; 11:270.
- two marked (Enchenopa bi-notata), 1:281-88, 319; 4:203; 6:177; 10:493; 11:270; 14:326⁵, 336², 351⁸, 380⁸.
- two spotted, *see* Tree hopper, two marked.
- Tree-trefoil, *see* Hop-tree.
- Trefoil, Peridromia saucia (syn. Agrotis) on, 5:205.
- Treitschke, Freidrich, *Schmetterlinge von Europa* cited, 5:200.
- Trelease, William, cited, 11:182.
- Tremex, pigeon, 1:304, 330; 11:264; 12:262.
- Tremex columba, attacking apple trees, 1:330; attacking maples, 3:226-27; general account (abstract), 1:304; reference, 8:108, 163; 11:264, 279; 12:262; Thalesa atrata (syn. Rhyssa) parasitic on, 2:230; 5:305; Thalesa lunator parasitic on, 4:38, 40, 41; 5:305, 311; 6:171; reference, 12:264, 279; 14:332⁴, 355⁸, 361⁹, 389⁹.
- tremulae, Lina, *see* Melosoma.
- Melasoma (syn. Lina), 10:405.
- triangularis, Disonycha, 7:383.
- Hydrophilus, 6:188; 8:298.
- Tettix, 2:197.
- Tribolium castaneum, *see* T. ferrugineum.
- cinnamomeum, *see* T. ferrugineum.
- confusum, 12:362.
- ferrugineum (syn. T. castaneum, T. cinnamomeum, T. navalis, T. ochracea, T. rubens, T. testaceum, Stene ferruginea), 2:136-39; 8:299; 9:308, 463; 14:342⁷.
- navalis, *see* T. ferrugineum.
- ochracea, *see* T. ferrugineum.
- rubens, *see* T. ferrugineum.
- testaceum, *see* T. ferrugineum.
- Trichinae, 4:127.
- Trichiocampus viminalis (syn. Cladius, Aulacomerus lutescens), 4:44-46; 5:171; 7:223, 224; 9:439; 14:357⁴, 374³.
- Trichius inda, *see* Euphoria.
- species, *see* Valgus canaliculatus.
- Trichobaris trinotata (syn. Baridius trinotatus), 3:106, 149; 14:345⁵, 352⁶.
- Trichocera, midwinter, 14:343³.
- Trichocera brumalis, 1:298; 2:243; 14:343³.
- hyemalis, 2:243.
- regelationis, 11:267.
- Trichodectes sphaerocephalus, 6:190; 10:513.
- Trichodes apivorus, 3:138.
- nuttalli, 3:138.
- Trichogramma, 8:296.
- fraterna, *see* Tetrastichus.
- minuta, 2:220.
- odontotae, 12:267.
- orgyiae, *see* Cratotechus.
- pretiosa, 2:220, 229; 4:194, 197, 205; 14:333⁴, 347⁸, 348⁸.
- Tricholita signata, 10:377.
- Trichoptera (Phryganidae or cad-dice flies), 1:79; 83.
- tricineta, Erythroneura, *see* Typhlocyba.
- Typhlocyba (syn. Erythroneura), 9:403, 410.
- tricolor, Urocetus, 13:342², 342⁴.
- tricolor, Agrotis, *see* Feltia jaculifera.
- Feltia, *see* F. jaculifera.
- tridentata, Compsidea, *see* Saperda.
- Saperda, *see* Saperda tridentata.
- Tridymus parasitic on Lasioptera vitis, 4:66.

trifasciata, Coleothrips, 1:303; 11: 248, 250.
 triferana, Lophoderus, 1:329; 11: 266.
 trifolii, Hylastes (syn. Hylesinus, Hylastinus obscurus), 1:8, 54, 247; 6:178; 7:335, 378; 14:323³, 326⁹.
 Hylesinus, *see* Hylastes.
 Mamestra, 1:8; 5:323; 8:235; 10: 482.
 Oscinis, *see* Agromyza diminuta.
 trifolii *Lintn.*, Cecidomyia, *see* C. leguminicola.
 trifolii *Loew*, Cecidomyia, 6:184; 14: 329⁹.
 Trifolium, *see* Clover.
 Trifolium repens, Grapholitha inter-
 stinctana on, 11:155.
 triguttata, Heterophleps, 10:483.
 trilineata, Crioceris, *see* Lema.
 Lema (syn. L. trivirgata, Crioceris), 1:32, 244, 322; 2: 132-36; 4:142, 207; 7:382; 9: 457; 10:491, 517; 11:284, 286; 14:314¹, 342¹, 357⁹, 379⁵; var. tripunctata, 2:134.
 Saperda, *see* S. tridentata.
 trimaculata, Chrysomela, *see* Dory-
 phora clivicollis.
 Plathemis, 9:464; 13:375².
 trimaculatus, Cephus (syn. Phyl-
 loecus), 8:167.
 Pediopsis, 9:400.
 Phylloecus, *see* Cephus.
 Trimble, I. P., cited, 1:194.
 Trimble, William, insects from, 11: 285.
 Trinity historical society, 14:306⁴.
 trinotata, Trichobaris (syn. Baridius trinotatus), 3:106, 149; 14:345⁵, 352⁹.
 trinotatus, Baridius, *see* Trichobaris trinotata.
 Trioza tripunctata (syn. Psylla), 9: 404, 411.
 Triozinae, 9:411.
 Tripsacum dactyloides, *see* Sesame grass.
 tripunctata, Lema, *see* L. trilineata var.
 Oberea, *see* O. bimaculata.
 Psylla, *see* Trioza.
 Saperda, *see* Oberea bimaculata.
 Tettigonia, 9:395.
 Trioza (syn. Psylla), 9:404, 411.
 Trirhabda canadensis, 4:142-43; 14: 350², 357⁹.
 trisectus, Crambus (syn. C. exsicca-
 tus), 1:136, 138, 149, 151; 14:328², 335⁴.
 trisignata, Harrisimemna, 12:360.

tristis, Anasa, *see* Anasa tristis.
 Lachnosterna (syn. L. pilosicol-
 lis, Phyllophaga pilosicollis),
 1:330; 6:176; 7:369; 9:296, 463;
 11:268; 14:318², 325⁹.
 Microdon, 2:116.
 Nisoniades, *see* Thanaos.
 Serica, 8:284, 298; 14:371⁹.
 Telamona, *see* T. coryli.
 Thanaos (syn. Nisoniades), 14: 321⁴.
 triticaphis, Toxares, 5:253.
 tritici, Agromyza, 1:226.
 Agrotis, 8:235.
 Cecidomyia, *see* Diplosis.
 Diplosis (syn. Cecidomyia), 1:6, 8, 138, 201, 297, 305, 306, 311, 321; 2:31; 8:255.
 Eurytoma, *see* Isosoma tritici *Fitch*.
 Limothrips, erroneous reference of Thrips tabaci.
 Psocus, 1:298.
 Pteromalus, *see* Isosoma tritici *Fitch*.
 Sciara, 10:389.
 Thrips, 1:303; 11:248, 249, 250, 271.
 tritici *Fitch*, Isosoma (syn. I. nigrum, Eurytoma, Pteromalus), 1:307, 320; 4:27, 28, 29, 30, 32; 5:315; 14: 338⁹.
 tritici *Riley*, Isosoma, *see* I. grande.
 Triticum sativum, Nectarophora granaria (syn. Siphonophora avenae) on, 5:252.
 trivialis, Chloropisca, 4:71.
 trivirgata, Lema, *see* L. trilineata.
 trivittata, Leptocoris, *see* Lepto-
 coris trivittatus.
 trivittatus, Leptocoris (syn. Ly-
 gaeus, Leptocoris trivittata),
 4:156-58, 193, 208; 10:432, 439, 503, 505; 11:270, 283, 287; 12: 352; 14:347⁴, 358², 385⁹, 387², 391¹, 393¹.
 Lygaeus, *see* Leptocoris.
 Trochilium ceto, *see* Melittia satyr-
 iniformis.
 marginatum, *see* Bembecia.
 Troctes divinatoria, *see* Atropos.
 fatidicus, *see* Atropos divina-
 toria.
 Trogositana, *see* Tenebrioides.
 Trogositidae injuring apple trees,
 11:267.
 Trogus obsidianator, 7:228.
 troilus, Euphoeades (syn. Papilio),
 10:507; 14:309⁴.
 Papilio, *see* Euphoeades.
 Trombididae, 5:287, 290; 6:158; 7: 321; 10:449-51.

- Trombidium bicolor*, erroneous reference of *Bryobia pratensis*. locustarum, 8:111, 179-80, 287; 10:497; 14:372^o, 382². muscarum, 7:365, 384; 14:367⁴.
- Tropaea luna* (syn. *Actias*), 2:39; 3:140; 5:188; 9:455, 456; 10:481, 509, 515; 14:313^s, 313⁶.
- Tropaeolum*, *Tetranychus telarius* on, 5:288.
- Trox unistriatus*, 9:463.
- Troy daily times* cited, 2:228; 14:331¹.
- Truman, P. C., cited, 12:194.
- truncatellum, *Copidosoma*, 3:140.
- truncatus, *Agriotes*, see *A. mancus*.
- Trupanea apivora*, see *Promachus fitchii*.
- Trypeta longipennis*, 3:137. pomonella (syn. *Rhagoletis*), 1:330; 2:117-25, 227, 234; 4:174; 5:300; 8:245-49; 10:391, 499; 11:267; 12:347-48; 14:336⁷, 342⁶, 343⁵, 353², 384⁵, 391³.
- Trypetidae*, 2:117; 5:282, 317; 9:462.
- Trypoxylon politum*, 12:359.
- Tsuga canadensis*, see Hemlock.
- tuberculata, *Dicerca*, 5:286.
- tuberculatus, *Hippiscus* (syn. *Oedipoda phoenicoptera*), 8:300; 9:330.
- tubicola, *Cecidomyia*, 4:175.
- Tulip tree, *Lecanium tulipiferae* on, 13:374⁷.
- tulipiferae, *Lecanium* (syn. *L. tiliae*, *Coccus tiliae*), 9:409, 411, 413; 10:518; 11:222; 13:374⁷.
- Tupper, Thomas, insects from, 11:284; 12:308, 359; referred to, 13:335⁷.
- turbulenta, *Hadena*, 10:509.
- turcicus, *Lygaeus*, 2:166.
- Turnbull, Mrs K. E., insects from, 12:360.
- Turnip, insects injurious to; *Agriotes lineatus*, 1:46. *Aleochara* species, 1:189. *Anthomyia radicum*, 1:192-94. *Anthomyia* flies, 1:65. *Aphis brassicae*, 6:147. cut worms, 8:236. *Drosophila flava*, 1:220. flea beetle, 1:40. *Mamestra picta*, 5:209. *Murgantia histrionica*, 1:264, 267. *Nysius angustatus*, 5:321. *Oxytelus rugosus*, 1:189. sculpturatus, 1:189. species, 1:189. *Phorbia brassicae* (syn. *Anthomyia*), 1:185.
- Turnip, insects injurious to; *Phyllotreta vittata* (syn. *Haltica striolata*), 1:60; 7:372; 9:375; 14:319⁷. *Phytomyza nigricornis*, 4:79. *Plusia brassicae*, 2:91; 6:184. *Sciara fucata*, 5:265. species, 10:389. *Smynthurus hortensis*, 2:207. *Thrips tabaci*, 11:244.
- Turnip flea beetle, 1:40, 244; 7:372; 9:375; 10:415; 14:319⁷.
- Turnip fly, 1:52.
- Turnip leaf miner, black horned, 4:79.
- Turnus, swallow tail, 1:327; 11:264.
- turnus, *Papilio*, see *Jasoniades glaucus*.
- Turtle, land, feeding on Cicada, 12:289.
- Tussock caterpillar, 7:216.
- Tussock moth, hickory, 1:328; 11:264; 14:398⁴. spotted, 11:264. white marked (*Notolophus leucostigma*), 1:33, 61, 64, 328; 2:68-89; 4:15, 48-51; 5:310; 6:107; 7:331; 9:295, 429, 437; 10:495; 11:121, 124-26, 264; 14:328⁶, 342⁵, 357⁵, 358⁷, 380⁶, 388².
- Twig borer, 11:268.
- Twig girdler, 1:331; 2:87; 11:269.
- Tylenchus devastatrix*, 8:221. radicola, 8:222.
- Tyloderma fragariae* (syn. *Analcis*), 1:155; 10:418.
- Typhlocibina*, 10:430.
- Typhlocyba* (syn. *Empoa*), 1:300; 7:316; 10:403, 410, 430. affinis, see *T. comes* var. *basilaris*. coccinea (syn. *Empoa*), 9:403, 410. comes (syn. *Erythroneura vitifex*), 8:287. var. *basilaris* (syn. *T. affinis*, *Erythroneura affinis*, *E. basilaris*), 9:403, 410. var. *vitis* (syn. *T. vitis*, *Erythroneura vitis*, *Tettigonia vitis*), 2:30; 4:199; 5:302; 7:345; 8:116, 254, 287; 9:403, 410; 12:363; 14:343⁶, 349⁵, 353⁸, 373². mali (syn. *Erythroneura*), 11:271. obliqua (syn. *Erythroneura*), 9:403, 410. querci (syn. *Empoa*), 9:403, 410. rosae (syn. *Anomia*, *Empoa*, *Tettigonia*), 2:31; 6:166; 7:

- 345, 362; 8:256; 11:271; 12:355-56; 14:343^a, 359^a, 366^a, 394^a.
tricincta (syn. *Erythroneura*), 9:403, 410.
vitis, see *T. comes* var.
vulnerata (syn. *Erythroneura*), 9:402, 403, 410.
Typhlodromus oleivorus, 3:144; 4:177; 8:281; 10:503; 14:370^r.
pyri, 10:453, 455.
typographus, *Bostrichus*, see *Tomiscus*.
Tomiscus (syn. *Bostrichus*), 2:55.
Tyrophorus canellus (syn. *Paria aterrima*), 6:183, 188; 7:360; 9:463; 10:495, 511; 14:329^r, 365^a, 381^a.
Tyroglyphidae, 5:290; 11:257.
Tyroglyphus, 10:449, 453.
farinae, see *T. siro*.
heteromorphus, carnation injured by, 11:254; description of the mite, 11:258-59; *Gamasus* associated with, 11:259; *Hypopal* forms, 11:256-57; *Hypopus*, studies of, 11:257-58; life history, notes on, 11:255-56; reference, 12:357; 14:396^a; remedies, 11:259-60; varied forms of the mite, 11:256-57.
lintneri, 10:452-53; 12:352; 14:393^a.
longior (syn. *Acarus horridus*), 3:120; 5:592; 6:190; 11:256; 13:364^a.
phylloxerae, 10:451, 452, 453; 11:258.
rostroserratus, 10:486; 14:377^a.
sacchari, see *T. siro*.
siro (syn. *Acarus domesticus*, *A. farinae*, *A. lactis*, *Tyroglyphus farinae*, *T. sacchari*), 3:100, 129-30, 151; 5:291-95; 6:170; 7:357; 8:293; 11:256; 13:364^a; 14:316^a, 346^a, 352^a, 361^r, 363^a, 364^r, 396^a.
species, 11:257.
Tyrophaga casei, see *Piophilala*.
Tyrranus carolinensis, see *Kingbird*.
u-album, *Hydroecia* (syn. *Gortyna purpuripennis*), 1:115.
u-aureum, *Plusia*, 10:376, 377.
Ufeus satyricus, 10:482.
Uhler, P. R., cited, 1:253, 264, 271; 2:125, 145, 149, 165, 188; 4:107, 109, 120, 156; 5:242; 7:296; 8:152; 9:317; 10:432; *Check list of the Hemiptera Heteroptera of North America* cited, 4:107, 109, 156; 10:432; 13:352^r; *List of Hemiptera west of the Mississippi river* cited, 2:149, 165; 4:156; 10:432.
Uhrig, George, insects from, 10:510.
uliginosellus, *Crambus*, 1:150.
ulmi, *Coccus*, see *Gossyparia*.
Gossyparia, see *Gossyparia ulmi*.
Lachnus, see *Schizoneura*.
Schizoneura (syn. *Lachnus*), 2:181; 9:407, 411, 412.
ulmicola, *Brysocrypta*, see *Colopha*.
Colopha (syn. *Brysocrypta*, *Colopha*, *C. compressa*, *Glyphina*, *Pemphigus*, *Thelaxes*), 3:126-28; 151; 4:198, 208; 5:303, 326; 7:370; 14:318^r, 346^a, 349^a, 352^a, 354^a.
Glyphina, see *Colopha*.
Pemphigus, see *Colopha*.
Thelaxes, see *Colopha*.
ulmifolii, *Callipterus*, 13:362^r; 14:400^a.
Ulmus, see *Elm*.
americana, see *Elm*, American or white.
campestris, *Galerucella luteola* injuring, 11:191; 12:255.
fulva, see *Elm*, slippery.
montana, see *Elm*, Scotch.
ultronia, *Catocala*, 11:121, 266.
umbra, *Pyrria* (syn. *Chariclea exprimens*), 9:456; 14:313^r, 316^a.
umbrosa, *Grapta*, see *Polygonia interrogationis* var.
umbrosus, *Heliothis*, see *H. armiger*.
Uncinula spiralis, see *Powdery mildew*.
undata, *Distenia*, 11:268.
undatus, *Crambus*, 1:151.
Underwood, L. M., cited, 4:128.
undosus, *Cossus*, 7:375; 14:307^a, 322^a.
undulata, *Anomala* (syn. *A. varians*), 10:413; 11:268.
Notonecta, 8:158.
undulatus, *Xylotrechus*, 4:96.
undulosa, *Ceratonia* (syn. *Daremma*), 9:452; 14:312^a.
Daremma, see *Ceratonia*.
Unger, Frank, insects from, 12:359.
Unger, H. A., insects from, 13:374^a; reference, 13:363^a.
unicolor, *Bythoscopus*, see *Chlorotettix*.
Byturus, 8:298.
Chlorotettix (syn. *Bythoscopus* 9:398, 410.
Macrobasis (syn. *Lytta murina*, *M. fabricii*), 1:32, 57, 331; 5:305, 321; 8:290, 291; 10:511; 11:269, 286; 12:315, 356, 362; 14:315^a, 341^a, 354^a, 395^a.

- unicolor, *Orthosoma*, see *O. brunneum*.
 Pemphredon, 8:163.
 Telamona, see *T. fasciata*.
 Unicorn prominent, 1:328; 11:265.
 unicornis, *Coelodasys*, see *Schizura*.
 Schizura (*Coelodasys*), 1:137, 328; 9:455; 11:265; 14:313³.
 unifascialis, *Botis*, see *Pyrausta*.
 Pyrausta (syn. *Botis*), 10:483.
 unifasciata, *Belvoisia* (syn. *Exorista flavicauda*), 12:190, 210.
 uniformis, *Balaninus*, 12:268.
 Macrodaetylus, 11:268.
 Sesia, see *Hemaris thysbe* var. *ruficaudis*.
 unijuga, *Catocala*, 5:282.
 unimoda, *Xylina*, 7:375; 14:307⁵, 321⁶.
 unio, *Eudryas*, see *Euthisanotia*.
 Euthisanotia (syn. *Eudryas*), 5:183; 9:450, 455; 14:313².
 unipuncta, *Heliophila*, see *Leucania*.
 Leucania, see *Leucania unipuncta*.
 unipunctatus, *Ixodes*, 6:158.
 unistriatus, *Trox*, 9:463.
 unitaria, *Hemerophila*, see *Lytrosis*.
 Lytrosis (syn. *Hemerophila*), 10:483.
 United States dep't agriculture, *Farmers' bulletin* cited, 12:183; 13:344⁶; *Report* cited, 1:116, 127, 152, 163, 172, 216, 227, 233, 239, 247, 253, 254, 264, 271, 281; 2:89, 102, 118, 126, 142, 149, 165, 180, 203; 4:20, 28, 35, 80, 114, 115, 155, 158; 5:164, 192, 200, 207, 227, 231, 234, 246; 6:125, 147; 7:255, 288, 296, 297, 321; 8:141, 152; 9:317; 10:388, 408, 453; 11:126, 127, 134, 146, 152, 174, 177, 181, 198, 206, 222, 232, 248, 249; 12:235, 254, 267; 13:338⁴, 351⁸, 352²; *Monthly report* cited, 1:81, 116; *Year book*, cited, 10:378; 11:233; 12:249, 254;
 division of entomology; *Bulletin*, abstract from, 12:356, 14:395¹; cited, 2:90, 149; 4:80, 156; 5:164, 227, 234; 7:296; 10:433; 11:110, 127, 133, 134, 145, 146, 152, 194, 226, 232, 233, 250, 256; 12:183, 190, 191, 192, 193, 194, 218, 230, 231, 235, 248, 253, 254, 264, 265, 272, 273, 292, 307, 321, 335; *Bulletin* (new series) cited, 13:343³, 344⁶, 351⁹, 353¹, 353², 353⁹; reprint from, 11:182-84, 189-96; *Circular* cited, 11:220; 12:254, 273;
 office of experiment stations, *Bulletin* cited, 12:183; 13:344⁶.
 United States entomological com-
- mission, *Bulletin* cited, 11:160, 181; 12:237, 243; *Report* cited, 1:181; 2:149, 188; 4:21, 93, 115, 158, 159; 5:184, 192, 216, 234; 8:133, 152, 154, 160; 9:330; 10:405, 477; 11:145, 157, 181, 240, 241, 248; 12:191, 194, 205, 237, 243, 265, 267; 13:338⁶, 343².
 United States geological and geographical survey of the territories, *Bulletin* cited, 1:151, 157, 163, 211, 264, 271; 2:145, 149, 165, 188; 4:28, 156, 216; 5:201, 246; 7:228, 255; 8:133; 9:299; 10:388, 405, 432, 478; 11:138, 142, 146, 160, 241; *Report* cited, 1:110, 172, 191, 194, 239, 253, 264; 2:57, 89, 149; 4:28; 5:246; 7:255; 11:126, 241.
 United States national museum, *Bulletin* cited, 8:129; 11:127, 134, 138, 146, 241, 248; 12:183; *Proceedings* cited, 4:151; 7:228; 9:309.
 University of Tennessee, Agricultural experiment station, *Bulletin* cited, 12:273.
 univittata, *Thelia*, 1:284; 9:392.
 urius, *Haematopinus* (syn. *H. suis*), 1:48.
 Uroceridae, 4:38; 8:167; 13:336², 338¹-42⁵.
 Urocerus, table of New York species, 13:342¹.
 Urocerus abdominalis, 13:339³, 342², 342⁵.
 albicornis (syn. *Sirex*), 13:338²-40⁶, 341², 341⁹, 342⁵; 14:398⁵, 400³.
 cressoni, 5:311; 13:340⁷-41⁹, 342⁵; 14:336⁹, 400⁴.
 cyaneus, 13:342², 343¹.
 edwardsii, 13:342², 342³.
 flavicornis, 13:339³, 342², 342⁶.
 gigas, 4:95.
 nigricornis, 13:342², 342⁴.
 tricolor, 13:342², 342⁴.
 zonatus, 13:342¹, 342³.
 uroplatae, *Sympiezus*, 12:267.
 Uropoda americana, parasitic on Colorado potato beetle, 5:289-91, 318; 6:166-67, 190; 8:298; parasitic on dung beetle, 7:312, 383; parasitic on *Julus*, 3:134, 142; 7:384; 10:451; reference, 6:166; 11:288; 14:340³, 359⁷.
 vegetans, 5:290.
 Urosigalphus armatus, 12:271.
 Uroxiphus caryae, see *Microcentrus*.
 ursaria, *Biston*, see *Lycia*.
 Lycia (syn. *Biston*), 3:136.
 ursula, *Limenitis*, see *Basilarchia astyanax*.

- Ursula butterfly, 1:327; 11:264.
Urtica dioica, see Nettle, common.
Utica morning herald cited, 6:167; 10:508; 14:310¹, 359⁹.
Utica semi-weekly herald quoted, 12:197.
- Vaccinium*, see Blueberry.
vagans, *Bombus*, 11:104.
 Valentine, Clarence, insects from, 7:382.
 Valerian, rose bug on, 4:199.
valga, *Chionea*, 2:236.
Valgus canaliculatus (syn. *Trichius* species), 11:268.
valida, *Serica*, 11:268.
 Van Alstyne, E., insects from, 7:383.
 Van Buren, R. D., insects from, 11:288.
 Vandenburg, M. W., insects from, 6:186, 187, 189.
 Vandenburg, Dr W. H., insects from, 3:141; 9:462.
Vanduzea arquata (syn. *Carynota*), 9:388, 410.
 Van Duzee, E. P., cited, 8:152; 10:430; 11:135; 12:191, 203; 13:352⁷.
 Van Epps, P. M., insects from, 10:515.
Vanessa antiopa, see *Eu Vanessa*.
 atalanta (syn. *Pyrameis*), 2:39; 4:137; 5:285; 9:454; 12:308.
 cardui (syn. *Cynthia*, *Pyrameis*), 1:320; 3:91; 7:228.
 huntera (syn. *Pyrameis*), 10:507; 14:309⁵.
 milberti, see *Aglais*.
 Van Hoesen, N. J., insects from, 11:285.
 Van Horn, J. A., insects from, 10:509.
 Van Orden, M. L., insects from, 10:518.
 Van Slyke, H., insects from, 6:187; 7:383; 9:462; 10:518; 11:288; on *Cicada chambers*, 12:281.
 Van Wagenen, G. H., cited, 5:234.
varia, *Hyperchiria*, see *Automeris io*.
variabilis, *Athysanus*, see *Bythoscopus*.
 Bythoscopus (syn. *Athysanus*, *A. abietis*), 9:400, 410.
varians, *Anomala*, see *A. undulata*.
varianus, *Harpiphorus*, 6:186.
variceps, *Chloropisca*, see *Chloropisca variceps*.
varicornis, *Bruchus*, see *B. obtectus*.
variegatus, *Anthribus Fourcr* (syn. *A. varius* of Europe, ?*Brachytarsus varius*), 1:259; 2:53, 140.
variegatus Say, *Anthribus*, see *Brachytarsus*.
 variegatus, *Brachytarsus* (syn. *Anthribus*, *A. obsoletus*, *B. sticticus*), 2:139-41; 14:342⁷.
variolarius, *Euschistus*, 2:146.
variolosa, *Macronoxia*, see *Polyphylla*.
 Polyphylla (syn. *Macronoxia*), 1:54, 71, 330; 11:268.
varius, *Anthrenus*, see *A. verbasci*.
 Anthribus of Europe, see *A. variegatus Fourcr*.
 Brachytarsus, see ?*Anthribus variegatus Fourcr*.
 Gordius, 4:125.
 Vassar brothers institute, *Transactions* cited, 7:256.
vastator, *Oscinis*, of Europe, 1:224.
vastatrix, *Phylloxera*, see *P. vitifoliae*.
vau, *Cyrtolobus* (syn. *Smilia*), 9:388, 410.
 Ichthyura, see *Melalopha apicalis*.
 Smilia, see *Cyrtolobus*.
Vedalia cardinalis, see *Novius*.
vegetans, *Uropoda*, 5:290.
velata, *Hydroecia* (syn. *H. sera*, *Gortyna sera*), 1:115, 340; 10:482.
velleda, *Planosa*, see *Tolyte*.
 Tolyte (syn. *Planosa*), 1:98, 328; 9:455; 11:265; 14:313³.
 var. *minuta*, *Gastropacha*, see *Tolyte laricis*.
venata, *Sphenophorus*, see *S. sculptilis*.
venatus Say, *Sphenophorus*, see *S. placidus*.
venosus, *Psocus* (syn. *P. aceris*), 1:161, 316.
ventricosus, *Heteropus* (syn. *Physogaster larvarum*), 2:110; 6:187, 190; 10:385-86.
 Nematus, see *Pteronoxia ribesii*.
venustum, *Simulium* (syn. *S. molestum*), 5:283, 317; 14:339⁶.
verbasci, *Anthrenus* (syn. *A. varius*), 1:65, 299; 2:138; 4:141; 5:267, 268; 6:120.
verbascoides, *Hadena*, see *Xylophasia*.
 Xylophasia (syn. *Hadena*), 1:340.
Verbena, insects injurious to;
 Icerya purchasi, 4:187.
 Phytomyza chrysanthemi (*P. lateralis* in error), 4:77.
verellus, *Crambus*, 1:150.
Verhandlungen der naturh. Ver. d. Preuss Rheinlande, cited, 9:317.
Verhandlungen der zoologisch-botanischen Gesellschaft in Wien cited, 11:162, 164, 240.
Vermicides, 11:275.

- Vermont agricultural experiment station, *Report* cited, 12:194.
 Vermont state board of agriculture, *Report* cited, 12:218, 292.
 vernalis, Livia, 9:404, 411.
 vernata, Anisopteryx, *see* Paleacrita.
 Paleacrita, *see* Paleacrita vernata.
 Vernonia noveboracensis, *see* Ironweed.
 vernoniae, Bracon, 11:156.
 verrucarum, Neuroterus, 5:308, 324.
 verruculatus, Circotettix (syn. C. verruculosa), 10:443.
 verruculosa, Circotettix, *see* C. verruculatus.
 verticalis, Ischnura, 11:288.
 verticis, Jassus, *see* Idiocerus.
 Idiocerus (syn. Jassus), 9:410.
 vesicatoria, Cantharis, *see* Lytta.
 Lytta (syn. Cantharis), 5:305; 6:131, 133; 14:354⁹.
 Vespa diabolica, 1:139; 7:229; 9:461.
 germanica, 10:405.
 maculata, 1:330; 5:285; 7:229; 9:461; 11:264.
 vulgaris, 1:330; 3:140; 10:519; 11:264.
 vespertina, Ephemera, of Europe, 4:124.
 Vespidae, 1:172; 6:111.
 vespillo, Pollenia, 9:310, 313.
 vestaliata, Corycia, *see* Orthofidonia.
 Orthofidonia (syn. Corycia), 1:329; 11:266.
 vestita, Saperda, 4:207; 11:269; 12:245.
 vetusta, Calocampa, 9:459.
 Notolophus (syn. Orgyia), 11:285.
 Orgyia, *see* Notolophus.
 var. cana, Notolophus (syn. Orgyia cana), 8:296.
 viburni, Dorthesia, *see* D. celastri.
 Viburnum lantanoides, *see* Witchhobble.
 lentago, *see* Osier.
 opulus, *see* Snow-ball.
 vicina, Pegomyia, 1:198, 209-11; 3:85; 14:308².
 Victorin, Mrs A., insects from, 9:461.
 villosa, Sciara, 12:225.
 villosum, Elaphidion, *see* Elaphidion villosum.
 viminalis, Cladius, *see* Trichiocampus.
 Lachnus (syn. L. dentatus), 3:152; 11:271.
 Trichiocampus (syn. Aulacomeres lutescens, Cladius), 4:44-46; 5:171; 7:223, 224; 9:439; 14:357⁴, 374³.
 Vinegar fly (Drosophila), 1:220.
 Vineland [N. J.] weekly cited, 1:116.
 Vineyardist cited, 5:302; 14:353⁸.
 violaceous, Perilampus, 1:146.
 violans, Nephelodes, *see* N. minians var. violans.
 Violet, English, Tetranychus telarius on, 5:287.
 virgilius, Nisoniades, *see* Thanaos horatius.
 Virginia agricultural experiment station, *Bulletin* cited, 11:233.
 Virginia creeper, insects injurious to;
 Alypia octomaculata, 1:33; 5:180; 6:177.
 Ampelophaga myron (syn. Darapsa), 5:179; 8:187.
 Euthisanotia grata (syn. Eudryas), 5:180; 6:177; 8:171.
 Phytomyza flaviceps, 4:79.
 Pulvinaria innumerabilis, 6:143.
 Thyreus abbotii, 5:306.
 virginiana, Oedipoda, *see* Chortophaga viridifasciata.
 virginianum, Acridium, *see* Chortophaga viridifasciata.
 virginianus, Bombus, 3:140.
 Gryllus, *see* Chortophaga viridifasciata.
 virginica, Ctenucha (syn. C. latreillana), 1:317; 9:456; 14:313³.
 Spilosoma, 1:317, 328; 2:83; 4:206; 6:169; 7:228, 304, 305; 9:440, 455; 10:481; 11:264; 13:371⁸; 14:313⁵, 360⁸, 374⁷.
 Xylocopa, 9:461; 11:284.
 virginiensis, Anisota (syn. A. pellucida), 5:199.
 Chalcophora, 12:361; 13:373³.
 Polydesmus, 3:134.
 Virgin's bower, sweet scented, insects on;
 Epicauta cinerea, 4:201, 208.
 vittata, 6:133.
 virgo, Arctia, *see* Euprepia.
 Euprepia (syn. Arctia), 7:219; 11:106.
 viridascens, Glyphe, 12:210.
 viridescens, Empoasca, 11:271.
 viridifasciata, Chimarocephala, *see* Chortophaga.
 Chortophaga, *see* Chortophaga viridifasciata.
 Gomphocerus, *see* Chortophaga.
 Locusta, *see* Chortophaga.
 Tragocephala, *see* Chortophaga.
 viridifasciatum, Acridium, *see* Chortophaga viridifasciata.
 viridis, Pediopsis, 9:399.
 viridisignata, Plusia, *see* P. selecta.
 viridulans, Rivellia (syn. Tephritis melliginis), 2:122.

- vitellinus, Acocephalus, *see* Paramesus.
 Paramesus (syn. Acocephalus), 9:397, 410.
 vitifex, Erythroneura, *see* Typhlocyba comes.
 vitifoliae, Pemphigus, *see* Phylloxera.
 Phylloxera (syn. P. vastatrix, Pemphigus), 1:4, 322; 2:36; 7:371; 8:264; 9:347, 464; 10:498; 14:318⁹, 319⁸, 330⁶, 383⁴.
 vitis, Erythroneura, *see* Typhlocyba comes var.
 Evoxysoma (syn. Isosoma), 2:32; 4:33; 7:374; 8:292, 293; 14:316³, 316³, 321².
 Isosoma, *see* Evoxysoma.
 Lasioptera, 4:63-67, 206; 5:304, 325; 7:376, 382; 10:510; 11:248; 14:320⁹, 354³, 354⁴.
 Pulvinaria, erroneous reference of P. innumerabilis.
 Pulvinaria of Europe, 6:146.
 Tettigonia, *see* Typhlocyba comes var.
 Typhlocyba, *see* T. comes var.
 Vitis labruska, *see* Grape.
 vitreus, Mesochorus, 12:210.
 vittata, Cantharis, *see* Epicauta.
 Diabrotica, *see* Diabrotica vittata.
 Epicauta (syn. Cantharis, Lytta), 1:33, 40, 57, 300, 322; 6:132-34, 136, 176; 7:376; 12:354; 14:322⁵, 326¹, 367⁹, 394³.
 Lytta, *see* Epicauta.
 Orchestris, *see* Phyllotreta.
 Phyllotreta (syn. Haltica striolata, Orchestris, P. striolata), 1:60, 195, 244, 310; 3:99; 5:301; 7:372; 9:375; 14:319⁷, 353⁶.
 Sciara, 5:265.
 Smilia, *see* S. camelus.
 vittigera, Pentagonia, 5:286.
 vituli, Haematopinus, 1:48.
 vivida, Hystriicia, *see* Bombyliomyia abrupta.
 Tachina, *see* Bombyliomyia abrupta.
 Volucella, 1:212.
 evecta, 7:229.
 vomitoria, Calliphora, 1:69, 170, 299.
 von Landberg, A., insects from, 11:182.
 v-signata, Tortrix, *see* Cacoecia argyrospila.
 vulgaris, Chlorops, *see* Sapromyza.
 Cicindela, 11:285.
 Gryllotalpa, 4:180; 6:151.
 Isocratus, 11:167.
 vulgaris, Lamenia (syn. Poeciloptera), 9:387, 410.
 Molobrus, *see* Sciara.
 Poeciloptera, *see* Lamenia.
 Sapromyza (syn. Chlorops, C. antennalis), 1:225.
 Sciara (syn. Molobrus), 10:387; 13:372⁶.
 Vespa, 1:330; 3:140; 10:519; 11:264.
 vulgivagellus, Crambus, *see* Crambus vulgivagellus.
 vulnerata, Erythroneura, *see* Typhlocyba.
 Typhlocyba (syn. Erythroneura), 9:402-3, 410.
 vulpinus, Dermestes, 4:88, 89, 197, 198; 6:120; 14:348⁷.
 Wachtl, *Entomol. Biolog. Studien* cited, 11:162, 164.
 Wadhams, F. E., insects from, 8:299.
 Wadsworth, A. D., insects from, 10:512.
 Wailly, Alfred, cited, 13:343³; reference, 13:350⁵.
 Walker, Francis, cited, 13:338⁴; referred to, 12:321; *List of the specimens of dipterous insects in the collection of the British museum* cited, 1:211; *List of the specimens of lepidopterous insects in the collection of the British museum* cited, 2:97; 5:174, 192, 213; 7:225; 11:152; *Catalogue of the specimens of neuropterous insects in the collection of the British museum* cited, 4:121; 12:298.
 Walker, J. V. D., insects from, 7:381; 13:371³.
 Walker, W. D., insects from, 10:510, 516.
 Walking stick, 1:79, 111; 6:189; 9:446; 10:512, 519; 14:310⁷.
 Walnut, insects injurious to;
 Balaninus species, 12:269.
 Citheronia regalis, 5:324.
 Coniodes plumigeraria (syn. Boarmia), 10:494.
 Cyllene pictus, 8:176.
 Datana integerrima, 12:309.
 fall web worm, 1:306.
 Gypona flavilineata, 9:397.
 Halisidota caryae, 7:355, 403.
 Hyphantria cunea (syn. H. texator), 1:306.
 Icerya purchasi, 4:187.
 Idiocerus lachrymalis, 9:398-99.
 Microcentrus caryae (syn. Uroxiphus), 9:392.
 Otiocerus wolfii, 9:386.
 Telamona fasciata, 9:390.

- Walnut, insects injurious to (*cont'd*)
Zeuzera pyrina, 9:426.
 black, insects injurious to;
Ania limbata (syn. *Nematocampa filamentaria*), 3:136.
Coccus hesperidum, 7:370.
Coniodes plumigeraria (syn. *Boarmia*), 10:494; 14:380⁶.
Cyllene pictus, 8:176.
Notolophus leucostigma (syn. *Orgyia*), 2:77.
 English; *Aspidiotus perniciosus* on, 11:224.
 Walnut moth, regal, 5:324.
 Walnut span worm, 10:494; 14:380⁵.
 Walsh, B. D., cited, 1:172, 199, 227, 253, 264; 2:102, 117, 125, 139, 148, 168, 180, 203; 4:28, 42, 51, 107, 114; 5:173, 192, 207, 246; 7:225, 288, 324; 8:159; 9:300, 307; 10:388, 408; 11:145, 197, 248; 12:235, 290; 13:351⁴, 351⁷; on *Lebia grandis*, 12:236; quoted, 11:148; 12:291; referred to, 12:312.
 Walsh, B. D., and Riley, C. V., cited, 1:110, 116, 227, 239, 271, 281; 2:111, 116, 125, 149; 3:133; 4:28, 35, 42, 63, 80, 158; 5:173; 6:147; 7:246, 296; 8:129, 155, 160; 9:317; 10:388; 11:126, 146, 248; 12:237, 290.
 Walsh, W. E., insects from, 6:187, 190.
 Walsingham, Lord, cited, 1:157, 163; 5:216; 11:160; *Heterocera in British museum* cited, 11:152.
 Walton, W. R., insects from, 12:317, 362, 363.
 Wandering Jew, *Plusia dyaus* on, 2:94, 228.
 Warble flies, 4:199; 6:111; 13:364⁵; 14:396³.
 Warrall, W. H., insects from, 8:297.
 Warren, W. G., insects from, 5:326.
warringtonellus, *Crambus*, 1:150, 151.
 Washburn, F. L., cited, 10:454.
 Washburn, J. B., insects from, 12:317, 363.
 Wasps, 1:40, 69, 74, 78, 139, 168, 172, 187, 212, 330; 2:60; 2:125; 4:190; 8:163; 10:426; 13:341³, 369⁹; 14:367¹, 398⁸.
 Water bug, giant, 4:145; 10:512.
 Water parsnip, *Lixus paraplecticus* on, 1:260.
 Watermelon, army worm feeding on, 12:206.
Margaronia nitidalis (syn. *Eudiotis*) injurious to, 11:132.
 Waters, G. F., cited, 11:157; quoted, 11:158.
 Watertown [N. Y.] *daily times* cited, 1:127; 14:334⁷.
 Watertown [N. Y.] *reformer* quoted, 12:196.
 Waterville [N. Y.] *times* cited, 3:148; 4:196; 14:348².
 Watkins [N. Y.] *express*, 14:343⁹.
 Weasels feeding on army worm, 12:208.
 Web worm, fall, 1:316; 2:83; 3:93; 7:345; 9:295, 422; 11:281.
 Webster, C. E., insects from, 11:284.
 Webster, F. M., cited, 2:102; 4:80; 5:227, 246; 7:297, 321; 10:378, 417, 453; 11:146, 178, 233, 242, 249; 12:191, 248, 254, 265, 273; 13:352⁹, 353⁹; insects from, 5:325; quoted, 11:123-24; referred to, 11:117; 12:267; 13:358⁹; on arsenicals spraying of blossoms, 11:117-18, 122-24; *Insects affecting corn* cited, 10:378.
 Weed, C. M., cited, 5:207; 7:225, 256; 9:300, 330; 10:416; 11:146, 152, 160, 249; 12:194, 238, 254; 13:353⁴; referred to, 12:207; *Insects and insecticides* cited, 10:433, 454; 11:110, 178, 249; 13:353⁴.
 Weed, H. E., cited, 10:348; 11:142; insects from, 9:462.
 Weevils, 1:78, 155, 226, 301; 7:331, 365; 9:443; 10:378, 384, 492, 494, 501, 511, 517; 14:376³.
 New York, 1:331; 11:270.
 Welch, Mrs M. B., insects from 10:519; 12:362.
 Wentworth, F. H., insects from, 11:288.
 West Virginia agricultural experiment station, *Bulletin* cited, 11:127, 135, 147, 178, 250; 12:193, 265.
 West Virginia historical society, 14:305².
 Western New York horticultural society, Committee on entomology, *Report*, 9:414, 422; *Proceedings*, abstracts from, 14:331³, 347⁵, 364⁵, 370³, 377⁴; cited, 1:152, 228; 4:194; 7:358; 8:281; 10:485; 12:194, 243.
 Westwood, J. O., cited, 1:172; 4:151; 7:242; 10:477; 11:240; quoted, 11:237; 12:322; *Introduction to the modern classification of insects* cited, 1:172, 239; 2:136, 203; 4:73; 5:234; 7:279; 9:307; 10:404, 477; 11:134, 174, 240, 247; 12:229.
 Westwood, J. O., and Drury, Drew, *Illustrations of exotic entomology*, cited, 4:57.
 Wetmore, R. W., insects from, 8:298.
 Wheat, insects injurious to;
Agriotes mancus, 12:356.
Agrotis segetum, 8:235
 tritici, 8:235.
Anthomyia similis, 1:202.
Brachytarsus variegatus, 2:140.

- Wheat, insects injurious to (*cont'd*)
Blissus leucopterus, 1:302; 2:150.
Cecidomyia destructor, 1:321; 5:263-64; 6:176.
Cephus pygmaeus, 3:147; 7:334.
Chloropisca variceps (syn. *C. prolifica*), 4:72.
Chortophaga viridifasciata (syn. *Chimarocephala*), 2:189.
Deltocephalus inimicus (syn. *Amblycephalus*), 9:401.
Diplosis cerealis (syn. *Cecidomyia*), 1:311.
 graminis (syn. *Cecidomyia*), 1:321.
 inimica (syn. *Cecidomyia*), 1:321.
 tritici (syn. *Eurytoma*), 1:6, 320.
Dolerus species, 3:140; 4:135.
Hydroecia nitela (syn. *Gortyna*), 1:112; 6:176, 178; 8:191.
Isosoma hordei, 4:11, 28-35.
 tritici, 14:338⁹.
Lachnosterna tristis, 6:176.
Leucania albilinea, 8:291; 10:490, 492; 14:315³.
 species, 9:457.
 unipuncta, 12:206.
Liburnia arvensis (syn. *Delphax*), 9:386.
Limotettix exitiosa (syn. *Cicadula*), 6:174; 14:324⁵, 324⁸.
Macrodactylus subspinosus, 1:229.
Melanoplus spretus (syn. *Caloptenus*), 7:338.
Meromyza americana, 1:221, 344; 6:178; 7:377; 12:361.
Nectarophora granaria (syn. *Aphis*, *Siphonophora avenae*), 1:313; 2:225; 3:112, 113, 114; 5:247-53; 6:103, 107, 174, 189; 7:367; 8:282; 14:317³, 325¹, 331⁸, 371².
Phorbia fusciceps (syn. *Hylemyia deceptiva*), 1:201.
Polydesmus complanatus, 12:301.
saw fly larva, 3:87, 147.
Sciara species, 5:265.
Sitodrepa panicea, 4:88-93.
Sitotroga cerealella, 2:106; 6:187; 10:378-80.
Tenebrio molitor, 8:299; 9:442.
 obscurus, 9:442, 463.
Thrips species, 11:249.
 tritici, 1:303.
Tribolium ferrugineum, 9:463.
 white grubs, 9:356.
wheat bulb worm, 1:344.
Wheat flour, *Silvanus surinamensis* in, 12:361.
Wheat flour insect (*Tribolium*), 2:136.
Wheat fly, 1:297, 298.
 clear winged, 1:297.
 deceptive or locust egg *Anthomyia*, 1:181-84, 199-201; 14:335³, 335⁹.
 similar, 1:202; 14:335³, 335⁹.
Wheat germ meal infested by *Plodia interpunctella* (syn. *Ephestia*), 12:360.
Wheat head army worm, 10:490, 492; 12:310.
Wheat midge, estimated losses caused by, 1:6; 2:159; 10:372; 12:341; introduced from Europe, 1:8, 9; parasites of, 8:275; reference, 1:201, 224, 295, 305, 306, 308, 311, 313, 314, 316, 317, 321; 2:125; 10:492, 505; 14:379⁸, 386⁷; Thrips destroying eggs of, 2:31; 8:255.
Wheat saw fly, 7:334, 335; 10:315.
Wheat stem fly (*Chlorops pumilionis*), 1:226.
Wheat stem maggot (*Meromyza*), 1:221-27; 3:96; 6:178; 7:377; 14:322³, 326⁹, 335⁹.
Wheat thrips, 1:303.
Wheat weevil, 10:492; 14:380¹.
Wheat wire worms, 12:356; 14:394⁹.
Wheatlet, infested by *Plodia interpunctella* (syn. *Ephestia*), 12:360.
Wheel bug, 2:230; 4:113; 6:138-41; 14:333³, 368².
Wheeler, Mrs C. H., insects from, 10:511.
Wheeler, L. B., insects from, 13:372².
Wheeler, W. M., cited, 10:478; 12:273.
Whitaker, J. S., insects from, 3:142.
Whitcomb, J. S., insects from, 12:360.
White ant, 1:79, 301; 4:179; 11:272; 14:312³.
White grub, attacking nursery stock, 9:353; attacking potatoes, 9:296; attacking strawberries, 9:296; attacking wheat, 4:203; crow feeding on, 9:350; damage to grass, 5:154; 6:176; 10:500; gas lime for, 1:54; general account, 8:174-75; 9:353-57; general accounts (abstracts), 5:308, 312-13, 315, 316; 6:171; in manure, 10:506; reference, 1:229; 2:35, 41, 114; 4:84; 7:337; 8:231; 9:422; 10:448, 497, 498; 14:325⁷, 329⁴, 329⁷, 331⁵, 337⁷, 338³, 339⁴, 340¹, 351⁵, 356⁵, 360³, 373³, 376¹, 382⁷, 383³, 384⁷, 387³,

- 396^o; remedies, 1:61; 2:224; 3:135; 5:317; robin feeding on, 9:356-57; 10:498.
- White marked tussock moth, *see* Tussock moth, white marked.
- White scale (*Aspidiotus nerii*), 5:278; 11:203-4, 277, 287; 14:363⁴.
- Whitehead, Charles, cited, 7:280; *Report on the injurious insects of Great Britain* cited, 7:280.
- Whitehill, J. C., insects from, 6:188.
- Wickham, H. F., cited, 10:408; 11:182; 12:249, 265.
- Wicks, C. B., insects from, 8:298.
- Wiedemann, C. R. W., cited, 1:191; *Aussereuropäische Zweiflügelige Insekten* cited, 1:211; 2:116.
- Wiegelia, *Poecilocapsus lineatus* on, 1:277.
- Wiegman's *Archiv der Naturgeschichte* cited, 10:453.
- Wien *entomologische Zeitung* cited, 8:141.
- Wiener *entomologische Monatschrift* cited, 11:138.
- "Wigglers," mosquito larvae, 12:333.
- wilcoxi, *Calosoma*, 12:209.
- Willard, X. A., cited, 12:230, 233; quoted, 12:233.
- Willet, J. E., cited, 11:134; quoted, 11:135-36.
- Williams, A. F., insects from, 7:383.
- Williams, A. P., insects from, 12:362.
- Williams, Clara, insects from, 6:186.
- Williams, C. L., insects from, 6:190.
- Williams, H. C., insects from, 7:381.
- Williams, Joseph, cited, 4:80.
- Williams, M. L., insects from, 13:360², 373^o; reference, 13:360⁴.
- Williams, T. A., cited, 11:182.
- Williamson, W. L., insects from, 4:207.
- Williston, S. W., cited, 1:216; 5:220; 7:228; 10:388; *Manuscript monograph of the Syrphidae* cited, 1:211; *Synopsis of the families and genera of North American Diptera* cited, 10:405.
- Willow, insects injurious to;
- Agrilus anxius*, 10:407.
- Anotia bonnetii*, 9:387.
- Caecilius* species, 1:161.
- Cercopidae*, 5:245.
- Ceresa bubalus*, 1:315.
- Chlorotettix tergatus* (syn. *Bythoscopus*), 9:398.
- Cicada septendecim*, 2:176.
- Clastoptera obtusa*, 5:245.
- Crepidodora helxines*, 4:102.
- Willow, insects injurious to;
- Cryptocampus angustus*, 13:336^o.
- saliceti*, 13:336^o.
- Datana integerrima*, 12:309.
- Dynastes tityus*, 5:230; 7:253.
- Ecpantheria ocularia* (syn. *E. scribonia*), 12:189.
- Euvanessa antiopa* (syn. *Vanessa*), 12:359.
- fall web worm, 1:306.
- Gossyparia ulmi*, 12:292.
- Hemileuca maia*, 2:40.
- Homoptera lunata*, 4:58.
- Hyphantria cunea* (syn. *H. texator*), 1:306.
- Icerya purchasi*, 4:187.
- Idiocerus alternatus*, 9:399.
- pallidus*, 9:399.
- Lachnus dentatus*, 3:152.
- salicellis*, 9:407.
- Lina scripta*, 7:219; 10:500.
- Mytilaspis pomorum*, 2:232; 11:202; 14:334⁷.
- Pentatoma juniperina*, 10:431.
- Peridroma saucia* (syn. *Agrotis*), 5:205.
- Pontania pomum* (syn. *Nematus salicis-pomum*), 5:173.
- Prionoxystus robiniae* (syn. *Cossus*), 9:426.
- Pulvinaria innumerabilis*, 6:143.
- Scoliopteryx libatrix*, 8:171, 172.
- Trichiocampus viminalis* (syn. *Cladius*), 7:224.
- basket, from Europe, 11:185; extent of cultivation, 11:185; *Hemileuca maia* on, 2:40; how grown, 11:185; *Lina scripta* injuring, 11:182, 184; yield and value, 11:185.
- Kilmarnock, *Mytilaspis pomorum* on, 8:286.
- laurel leaved, *Aspidiotus perniciosus* on, 11:224.
- weeping, *Aspidiotus perniciosus* on, 11:224.
- Willow apple gall saw fly, 5:173; 12:359.
- Willow apple Tineid, 12:360.
- Willow butterfly, 12:354; 14:394⁴.
- Willow gall gnats, 1:138.
- Wing, L. C., insects from, 6:189.
- Winne, Esby, insects from, 11:285.
- Winnertz, Johannes, cited, 11:162; referred to, 11:164; *Beitrag zu einer Monographie der Sciarinen* cited, 10:388.
- Winter caterpillars, 4:54, 56.
- Winter insects, 1:98; 2:203, 205, 235-44.
- Winter mosquito, 1:298; 2:241; 12:320.

- Winthemia quadripustulata (syn. Carcelia leucaniae, Exorista militaris, Nemoraia leucaniae), 1:146; 7:376; 8:238; 12:190, 191, 192, 194, 210, 310, 354.
- Wire worms, baits for, 1:63; infesting cabbages, 7:360; infesting corn, 8:282-83; infesting potato vines, 2:226; 10:489; injuries caused by, 4:13; parafin oil for, 1:46; reference, 1:296, 322; 2:35; 3:101, 132; 7:337; 8:222; 10:497; 11:276; 12:347, 352, 361; 13:367; 14:332³, 358⁶, 365³, 370⁶, 382⁴, 388⁴, 391², 393⁸, 397⁶; remedies, 5:310; 8:197-200; 10:448; scabby potatoes not caused by, 10:487.
- Wisconsin state horticultural society, *Transactions* cited, 13:352⁶.
- Wisner, A. B., cited, 7:321.
- Wistaria, Enchenopa binotata on, 10:493, 512; 14:380³.
- Witch hazel, Phobetron pithecium on, 5:187.
- Witch hazel Bryocrypta, 9:409.
- Witch hobble, Geometrid larva on, 5:260.
- Wittmer, J. E., insects from, 3:140; 10:510.
- wolfii, Phymata (syn. P. erosa, Acanthia), 3:107-10; 7:371; 8:300; 9:463; 11:117; 14:319², 352⁶.
- wolfii, Otiocerus, 9:386.
- Wollastonia quercicola, 2:53.
- Wood, H. C., cited, 4:128; *Myriapoda of North America* cited, 3:133.
- Wood, J. G., *Insects abroad* cited, 11:174, 241, 248; *Insects at home* cited, 7:279; 11:248.
- Wood, Theodore, cited, 7:280.
- Wood borers, 12:244.
- Woodbine, see Virginia creeper.
- Woodbridge, T. R., insects from, 7:383.
- Woodpecker, downy, preying on Plagionotus speciosus, 12:242.
- golden winged, feeding on army worm, 12:209; preying on Plagionotus speciosus, 12:242.
- hairy, preying on Plagionotus, 12:242.
- yellow bellied, 14:344⁵.
- Woodruff, D. F., insects from, 10:512.
- Woolly bears, 7:225, 228, 368.
- black-and-red, 7:225-28; 9:439-40; 14:369⁴, 374⁴.
- yellow, 2:83; 7:304, 305; 9:440; 14:360⁸, 374¹.
- Woolsey, A. H., insects from, 7:384; 8:299.
- Wrigglers, mosquito larvae, 12:333.
- Wright, H. R., insects from, 10:510.
- Wright, J. S., insects from, 8:297.
- Wynkoop, James, insects from, 10:509.
- Xanthium strumarium, see Cocklebur.
- xanthomelaena, Galeruca, see Galerucella luteola.
- Galerucella, see Elm leaf beetle.
- Xanthonia, spotted, 11:269.
- Xanthonia decemnotata, 11:269.
- Xanthotype crocataria (syn. Angerona), 4:206; 10:483.
- Xanthoxylum, see Prickly ash.
- xanthus, Pyrgus, 1:336.
- Xestobium rufovillosum (syn. Anobium tessellatum), 2:202.
- Xyleborus infesting pear twigs, 6:188; 12:246.
- Xyleborus caelatus, 2:54, 55.
- dispar (syn. X. obesus X. pyri, Scolytus obesus, S. pyri), 1:310, 331; 3:141; 4:203; 5:300, 318, 325; 7:348-51, 361, 370, 383; 8:299; 9:366, 419; 11:270, 286; 14:318⁶, 340⁴, 349⁶, 351⁵, 353³, 365⁵.
- obesus, see X. dispar.
- pyri, see X. dispar.
- xylographus, 11:270.
- Xyleutes robiniae, see Prionoxystus.
- Xylina, 1:341; 6:184.
- antennata (syn. X. cinerea), 1:137, 328; 11:265, 279.
- bethunei, 1:328, 341; 11:265; 12:360.
- cinerea, see X. antennata.
- disposita, 1:341.
- lepida, 7:375; 14:307⁶, 321⁶.
- petulca, see X. signosa.
- signosa (syn. X. petulca), 1:341.
- thaxteri var. lambda, 7:375; 14:321⁶.
- unimoda, 7:375; 14:307⁵, 321⁶.
- xylina, Aletia, see A. argillacea.
- xylinoidea, Hyppa, 4:138; 10:482; 14:357⁹.
- Xylocleptes decipiens (Pityophthorus species "h" of Hopkins), 11:270.
- Xylocopa virginica, 9:461; 11:284.
- xylographus, Xyleborus, 11:270.
- xyloni, Solenopsis, see S. geminata.
- Xylophagidae classified, 4:174.
- Xylophasia arctica (syn. Hadenia, Mamestra), 5:212; 10:447, 482; 14:311¹.

- Xylophasia devastatrix* (syn. *Agrotis devastator*, *Hadena*), 1:58, 303; 8:235; 10:482.
dubitans, 10:377.
finitima (syn. *Hadena*), 10:482.
grandis (syn. *Hadena*), 5:210.
lateritia (syn. *Hadena*), 10:482.
lignicolor (syn. *Hadena*), 9:456; 14:316⁶.
verbascoides (syn. *Hadena*), 1:340.
Xyloryctes satyrus, 7:25.
Xyloterus bivittatus, *see* *X. lineatus*.
lineatus (syn. *X. bivittatus*), 2:54.
colonus (syn. *Callidium*, *Clytus*, *C. agrestis*, *C. campestris*), 4:93-96, 194; 14:347³.
undulatus, 4:96.
Yellow fever, mosquitoes vaccinating against, 12:331.
Yellow fever fly, 10:388, 390-91, 489.
Yellow jacket, 1:30; 7:299; 11:264.
Yeomans, T. G., insects from, 8:297.
Young, D. B., insects from, 8:298.
Young, H. L., insects from, 11:285.
Young, J. N., insects from, 11:287.
ypsilon, *Agrotis*, 1:8, 58; 8:111, 126, 188-91, 284, 296; 10:497; 12:205; 14:371⁸, 382³.
Biston, *see* *Nacophora*.
Nacophora (syn. *Biston*), 11:216.
Ypsolophus contubernallellus, *see* *Y. pometellus*.
granellus, *see* *Sitotroga cereal-ella*.
malifoliellus, 1:329.
pometellus (syn. *Argyrolepis pomoriana*, *A. silvaticana*, *Chaetochilus*, *C. contubernallellus*, *Rhinosia pometella*, *Ypsolophus contubernallellus*), 1:300, 301, 329; 11:267.
Yucca, insects injurious to;
Aspidiotus nerii, 11:204.
Leptocoris trivittatus, 4:158.
yuccasella, *Pronuba*, 2:215.
Zabriskie, J. L., cited, 12:215.
Zabrus gibbus, *see* *Z. tenebrioides*.
tenebrioides (syn. *Z. gibbus*), of Europe, 3:99.
Zaraea inflata (syn. *Abia caprifolium*), 1:42.
zeae, *Anthomyia*, *see* *Phorbia fusci-ceps* Zett.
Sphenophorus, *see* *S. sculptilis*.
Zebra caterpillar, *see* *Cabbage caterpillar*, *zebra*.
zeëllus, *Crambus*, 4:14.
Zeller, P. C., *Beiträge zur Kenntniss der nordamerikanischen Nachtfalter, besonders der Microlepidopteren* cited, 1:127, 157; 5:213; 11:152; *Chilonidarum et Crambidarum genera et species* cited, 1:149.
Zerene catenaria, *see* *Cingilia*.
Zesch, Frank and Reinecke, *Ottomar, List of the Coleoptera observed and collected in the vicinity of Buffalo* cited, 7:285; 12:238, 243.
Zeuzera pupae, 2:216.
Zeuzera aesculi, *see* *Z. pyrina*.
pyrina (syn. *Z. aesculi*), 9:426, 427, 462; 10:485; 11:265, 275; 12:360; 14:377⁵, 388³.
zimmermani, *Nephopteryx*, *see* *Pini-pestis*.
Pinipestis (syn. *Nephopteryx*), 4:19; 7:373; 14:320².
Zinnia, *Spilosoma virginica* on, 7:304.
Zittel's Handbuch der Palaeontologie cited, 11:241.
Zizania aquatica, *see* *Rice*, *Indian*.
zonatus, *Urocera*, 13:342¹, 342³.
Zophodia convolutella (syn. *Dak-ruma*), 2:10.
grossulariae (syn. *Pempelia*), 2:10; 8:294; 14:317².
Zygaena 8-maculata, *see* *Alypia*.
Zygaenidae, 5:179; 9:456.
Zygoneura, 10:389.

Errata to entomologist's reports 1-13 and to supplement of 14

The following are errors detected since the publication of the individual reports. Many of them were corrected by Dr Lintner on printed slips or in a subsequent report, others have been found in working on the index to his publications. If desired, these may be inserted as slips in the respective reports.

Additional errata in first report

- Page 40, line 15, for *Sylvanus* read *Silvanus*.
Page 42, line 24, for Tenthridinidae read Tenthredinidae.
Page 42, line 10 from bottom, take out the comma after *cerasi*.
Page 57, line 21 from bottom, for tiers read tyers.
Page 80, lines 5, 6, 7, 17, take out the period after the species.
Page 120, line 7 from bottom, for *Cicia* read *Cicer*.
Page 156, line 4 from bottom, for *pinifoliae* read *pinifoliella*.
Page 160, line 29, for BUCCULATRIX read BUCCULATRICIS.
Page 181, line 29, for 107 read 170.
Page 191, line 1, for BIBLIOGRAPH read BIBLIOGRAPHY.
Page 215, line 35, change the comma to a period.
Page 226, line 10 from bottom, after different, insert: class of the.
Page 227, lines 15 and 16 from bottom, for p. 682 *et seq.* read p. 477-84.
Page 247, line 16, take out the comma after *opimus*.
Page 264, line 6, for 183 read 1834.
Page 268-9, for *Pentatomoidae* read *Pentatomoidea*.
Page 271, line 26, for 324 read 124.
Page 272, line 2, for *ribes* read *ribis*.
Page 296, line 22, read two of the three bound volumes.
Page 297, line 25, for *caprea* read *capraea*.
Page 297, line 5 from bottom, for *togata* read *tergata*.
Page 300, line 15, for *Telamone* read *Telamona*, and for *Heleochara* read *Helochara*.
Page 302, line 5, for 264 read 254.
Page 314, last line, for *Cyniphidae* read *Cynipidae*.
Page 329, line 28, for pomotellus read pometellus.
Page 330, line 12, for *fuscata* read *fuscatus*.
Page 330, line 16, for (Rhagolites) read (Rhagoletis).

- Page 330, line 2 from bottom, for ix read x.
Page 331, line 3, for *aculifer* read *aculiferus*.
Page 336, line 6, for *Daimia* read *Daimio*.
Page 343, line 14 from bottom, for *marcellaria* read *macellaria*.
Page of errata, omit the first line.

Additional errata in second report

- Page xii, line 16, for *raeus* read *reus*.
Page 5, line 11, for *Pristophora* read *Pristiphora*.
Page 23, line 13 from bottom, for *Ampelophila* read *Drosophila*.
Page 31, line 3 from bottom, for *Psyche* read *Psyche*.
Page 46, line 16, for Mille read Miller.
Page 57, line 3, for Harris read (Harris).
Page 57, line 7, for 1834 read 1839.
Page 57, line 20, for 487 read 497.
Page 69, line 10, for *Psyche* read *Papilio*.
Page 74, line 32, for *Thyriodopteryx* read *Thyridopteryx*.
Page 77, line 5, for *Cupili-* read *Cupuli-*.
Page 94, line 2, for Grote read Grote.
Page 97, line 4, from bottom, for Can. read Ont.
Page 98, line 8 from bottom, for honey-locust read common locust.
Page 101, line 3, same as above.
Page 101, line 5, for *Spiraae* read *Spiraea*.
Page 102, line 31, for 169 read 171.
Page 119, line 14, for on read in.
Page 119, line 18, for where read when.
Page 121, line 13, for Mich. read Ill.
Page 125, line 12, for *Sciari* read *Sciara*.
Page 136, line 17, for BANDI read BAUDI.
Page 140, line 5, for Rynhchoporid read Rhynchophorid.
Page 140, line 26, for pora read phora.
Page 142, line 2, for (Horn) read Horn.
Page 146, line 24, for *chistes* read *chistus*.
Page 152, line 33, for *Cimex lectularia* read *Cimex lectularius*.
Page 166, line 15 from bottom, for *Euchetes* read *Euchaetes*.
Page 168, line 7, for 1860 read 1862.
Page 180, line 2, for Fitch read (Fitch).
Page 182, line 10, for longer read shorter.
Page 199, line 9, for *Pscocidae* read *Psocidae*.
Page 203, line 21, take out BURG.
Page 207, line 20 and under figures, for *purpurascens* read *purpurescens*.
Page 213, line 5 from bottom, for *Corydalus* read *Corydalus*.
Page 235, line 6, take out the first with.
Page 241, line 2 from bottom, for *Anophales* read *Anopheles*.

Errata in third report

- Page 116, line 6, for *Anaitis* read *Anatis*.
Page 123, line 25, for Hemiptera read Hemiptera.
Page 138, line 16 from bottom, for NUTTALI read NUTTALLI.
Page 138, line 7 from bottom, for DACTOLYPIUS read DACTYLOPIUS.
Page 140, line 10, for chalcid *Copodosoma truncatella* read chalcid *Copidosoma truncatellum*.
Page 140, line 18, for *Irus* read *strigosa*.
Page 141, line 8, for *fusciventris* read *fasciventris*.
Page 142, line 3 from bottom, for 260 read 269, [continued on page 289].
Page 144, line 7, for *picivorous* read *picivorus*.
Page 153, line 24, for *Euschistes* read *Euschistus*.
Page 153, line 25, for *Phylira* read *Phyllira*.

Additional errata in fourth report

- Page 50, lines 4, 9, 13, 14, 21, for *definata* read *definita*.
Page 67, line 25, for Daniels read Daniell.
Page 71, lines 20 and 21, for auxiliary read first.
Page 72, lines 18 and 41, for Wager read Waga.
Page 73, line 7, after p. 152 add (of Synop. Br. Ins.).
Page 104, bottom line, for back read bark.
Page 115, line 12, for COOK read COOKE.
Page 137, line 7, for *hypophleas* read *hypophlaeas*.
Page 139, line 10, for *Cramer* read (*Cramer*).
Page 151, line 9, for 41, 44 read 41-44.
Page 154, line 8 from bottom, for *tamariscis* read *tamarisci*.
Page 162, line 2 from bottom, for *geminata* read *gemmata*.
Page 180, line 18 from bottom, for *Periplanata* read *Periplaneta*.
Page 197, line 14 from bottom, for *Tenthridinae* read *Tenthredinae*.
Page 206, line 3, for *crocotaria* read *crocataria*.
Page 207, line 12, for Thung. read Thunb.
Page 207, line 16 from bottom, for *vestata* read *vestita*.
Page 208, line 8 from bottom, for *obtusa* read *obtrusa*.

Additional errata in fifth report

- Page 148, line 5, for zanthomelaena read xanthomelaena.
Page 170, line 8, for Dallas read (Dallas).
Page 174, line 18, transfer comma from after *chocrocampa* to before.
Page 193, line 3, for *Adolecephala* read *Adclocephala*.
Page 199, line 7 from bottom, for *Ceratocampadae* read *Ceratocampidae*.
Page 201, line 3, for Hist. read Sci.
Page 213, line 4, for Boisdaval read Boisduval.
Page 219, line 20, for ac ss read across.
Page 224, line 9 from bottom, for L. A. Howard read L. O. Howard.

- Page 224, line 3 from bottom, and page 225, line 13, for Boder read Bodee.
Page 231, omit first and third paragraphs, relating to tobacco feeding.
Page 232, line 14 from bottom, for *basilis* read *basalis*.
Page 245, line 25, for *quadrinota* read *quadrinotata*.
Page 257, line 16, for Guer. read Guér.
Page 266, line 16 and under figure, for *pinifolii* read *pinifoliae*.
Page 268, line 15, for subjec read subject.
Page 268, line 23, for *fraterna* read *fraternus*.
Page 271, line 4 from bottom, for *Blaphar-* read *Blephar-*.
Page 282, line 2, for *Trypetdiae* read *Trypetidae*.
Page 283, line 3 from bottom, for more read less.
Page 295, line 19, for Raf. read (Raf.).
Page 300, line 9 from bottom, for *Chrysomelidae* read *Bruchidae*.
Page 303, line 18, for *Tachus* read *Tachys*.
Page 303, line 19, for *Homolota* read *Homalota*.
Page 313, bottom line, for he read the.
Page 320, last line, for *hyalinatalis* read *hyalinata*.
Page 326, line 19, for Husted read Husteded.

Additional errata in sixth report

- Page 120, line 2 from bottom, for Henshaw read Dimmock.
Page 146, line 23, precede the line with—it and.
Page 151, lines 12 and 16, *longipennis* and *Columbia* are the same.
Page 170, line 26, for *Anthomenus* read *Anchomenus*.
Page 176, line 23, for *piliscollis* read *pilosicollis*.
Page 188, line 20, for *confusor* read *confusus*.
Page 189, line 2, for Linn. read (Linn.) and for DeGeer read (DeGeer).
Page 189, line 3, for CROUSE read CROWE.

Additional errata in seventh report

- Page 201, line 12, for PHYTOOMYZA read PHYTOMYZA.
Page 229, line 25, for *abbreviatella* read *abbreviata*.
Page 250, line 4 from bottom, for ventral surface read dorsal segment.
Page 279, line 19, for (Boheman) read Boheman.
Page 285, line 20, for Syn. read Syst.
Page 296, line 14 from bottom, for Magazine read Weekly.
Page 297, line 5, for McNEAL read McNEIL.
Page 297, line 8, for ii read i.
Page 320, line 6, for G. F. Pierce read G. T. Pierce.
Page 325, line 10 from bottom, for *Periplanata* read *Periplaneta*.
Page 334, line 13, for *pygmeus* read *pygmaeus*.
Page 357, line 1, for (C) read (B).
Page 360, line 12 from bottom, for Oliv. read (Oliv.).
Page 367, lines 29 and 30, for *Cuterabra* read *Cuterebra*.

- Page 369, line 11, for *Amblycomorpha* read *Amblycorypha*.
Page 371, line 10, for *Daimia* read *Daimio*.
Page 375, lines 29 and 30, for *Xylina lambda (Fabr.)* var. *Thaxteri Grote*
read *Xylina Thaxteri Grote* var. *lambda (Fabr.)*.
Page 381, line 1, for (D) read (C).
Page 382, line 25, for *Cuterabra* read *Cuterebra*.
Page 384, line 17, for Harris read (DeGeer).
Page 384, line 19, for *Amblycomorpha* read *Amblycorypha*.

Additional errata in eighth report

- Page 106, line 31, for *C. pyrivora* read *D. pyrivora*.
Page 163, omit last line.
Page 167, line 13, for *pygmeus* read *pygmaeus*.
Page 238, line 8 from bottom, for *Masicora* read *Masicera*.
Page 275, line 13, for *Chalciddiae* read *Chalcididae*.
Page 289, line 4, for *definata* read *definita*.
Page 291, lines 3 and 8 from bottom, for *Deshaiziana* read *Deshaisiana*.
Page 298, line 7, for *Helophilus* read *Hydrophilus*.
Page 300, line 12 from bottom, for *Chlosops* read *Chlorops*.

Additional errata in ninth report

- Page 296, line 8, for pelargium read pelargonium.
Page 296, line 15, for *Garpocapsa* read *Carpocapsa*.
Page 313, line 15, for *Chlorops* read *Chloropisca*.
Page 343, line 12, for 1844 read 1884.
Page 450, line 12, for *Gonopteryx* read *Gonoptera*.
Page 455, line 4 from bottom, for *Lecontii* read *Lecontei*.
Page 456, last line, for *Schlagaeeri* read *Schlaegeri*.
Page 461, line 14, for *Xylocapa* read *Xylocopa*.
Page 462, line 2 from bottom, for *fulvipes* read *fuscipes*.

Additional errata in 10th report

- Page 403, line 21, for *Africa* read *Australia* and for Ezra P. read Frazer S.
Page 406, in explanation of figure 8, for RUFICOLIS read RUFICOLLIS.
Page 411, line 7, for 1894 read 1844.
Page 430, line 5 from bottom, for Hist. read Sci.
Page 443, line 10, for *verruculosa* read *verruculatus*.
Page 477, line 10 from bottom, for GUIER read FIGUIER.
Page 483, line 23, for *nigrinodes* read *nigrinodis*.
Page 512, line 27, for Linn. read (Linn.).
Page 515, line 7, for JOHN read JULIUS.
Page 516, line 10, for LEFLER read LAFLER.
Page 518, line 11 from bottom, for *tenebrosus* read *tenebricosus*.
Page 526, line 8 from bottom, for (Fabr.) read (Linn.).

- Page 528, line 2, for *Linn.* read (*Linn.*).
Page 528, line 18, for *Odontata* read *Odontota*.
Page 531, line 19, for *Harris* read (*DeGeer*).
Page 531, line 3 from bottom, for (*DeGeer*) read *DeGeer*.

Additional errata in 11th report

- Page 109, next to last line, for p. 240 read p. 249.
Page 121, line 12 from bottom, for *indiginella* read *indigenella*.
Page 238, line 15 from bottom, for *Brachnemurus* read *Brachynemurus*.
Page 266, line 5 from bottom, for *pyriclana* read *pyricolana*.
Page 272, line 5, for *cyaneipes* read *cyanipes*.
Page 284, line 2, for 1894 read 1895.

Additional errata in 12th report

- Page 243, line 16, for *trinlieata* read *trilineata*.
Page 361, line 13, for *nigra* read *niger*.
Page 362, lines 19 and 20, for J. A. HOUCK read J. H. HOUCK.

Erratum in 13th report

- Page 351, line 2 from bottom, for *lineatus* read *linearis*.

Errata in supplement to 14th report

- Page 317, lines 3-4, for [*Prionodus*] read [*Prionidus*].
Page 318, line 29, for [*Glyphina*] read [*Colopha*].
Page 321, line 16, *Lycaena lotis* is not a var. of *Cyaniris pseudargiolus*.
Page 321, line 10 from bottom, for *populata* read *populatum*.
Page 331, line 11 from bottom, for *Chortophila* [*Phorbia*] *floccosa* read
Chortophila floccosa [*Phorbia brassicae*].
Page 333, line 16 from bottom, for [*Prionodus*] read [*Prionidus*].
Page 339, line 6, for [*Prionodus*] read [*Prionidus*].
Page 354, line 16, take out [*Glyphina*].
Page 368, line 6, for beetle read bug.
Page 380, line 13 from bottom, for *ruficaudus* read *ruficaudis*.

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